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Integration of the European arms industry: an analysis of key variables and processes in France, Britain, and the Federal Republic of Germany

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AN ANALYSIS OF KEY VARIABLES AND PROCESSES
IN FRANCE, BRITAIN, AND THE
FEDERAL REPUBLIC OF GERMANY

by

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This thesis analyzes key variables and processes in France, the United Kingdom, and the Federal Republic of Germany in an attempt to determine the factors unique to each nation that tend to inhibit or promote movement toward integration of the European arms industries. For the purposes of this study it is assumed that defense production costs will be constantly increasing, while a variety of other global factors continue to produce a smaller arms market and increased competition among suppliers. With these factors known, the political, military, and economic roles of national arms industries are isolated as potential indicators of future integration in Europe and the significance of a joint venture involving any of these nations may be judged with greater confidence.

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INTEGRATION OF THE EUROPEAN ARMS INDUSTRY: AN ANALYSIS OF KEY VARIABLES AND PROCESSES IN FRANCE, BRITAIN, AND THE FEDERAL REPUBLIC OF GERMANY

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ABSTRACT

This thesis analyzes key variables and processes in France, the United Kingdom, and the Federal Republic of Germany in an attempt to determine the factors unique to each nation that tend to inhibit or promote movement toward integration of the European arms industries. For the purposes of this study it is assumed that defense production costs will be constantly increasing, while a variety of other global factors continue to produce a smaller arms market and increased competition among suppliers. With these factors known, the political, military, and economic roles of national arms industries are isolated as potential indicators of future integration in Europe and the significance of a joint venture involving any of these nations may be judged with greater confidence.

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I. INTRODUCTION

A. SETTING THE STAGE

Over the past 10 years members of the international arms industrial community have naturally established new forms of collaboration, interdependence, and competition.* This has happened primarily as a response to changing customer means and needs, the upwardly spiralling cost of developing weapons systems, and the increase in the overall number of arms suppliers. Much new ground has been broken, particularly among the European members of this group. For instance, whereas past collaborative arms efforts involving different European nations were characterized as ad hoc with little potential for follow-on projects [Ref. 1:p. 20], both the European Fighter Aircraft program and the TRIGAT system program are managed by multi-national groups closely related to consortia organized for similar programs in the late 1960's and early 1970's [Ref. 2:pp. 52, 56]. A degree of continuity is evident in both programs.

An increasing trend toward privatization is also evident in the European arms market since 1979, leading to takeovers of smaller firms by those with more capital. British Aerospace/Royal Ordnance and Daimler-Benz/Messerschmidt-Boelkow-Blohm are relationships that fall into this

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* For a more complete overview of the European arms industrial community, see William Walker and Philip Gummett, "Britain and the European Armaments Market," *International Affairs*, Summer 1989, pp. 419-42; Andrew Moravcsik, "The European Armaments Industry at the Crossroads," *Survival*, January/February 1990, pp. 65-85.

category. Even more significant is the transnational nature of some of these takeovers, as with the GEC/Siemens move to take over Plessey in 1989.

The pace of such mergers and related events that potentially affect the future shape of the European arms industry seems to be increasing as the European Community heads toward the internal market of 1992. An all-encompassing, quantifiable method to measure the amount of arms industrial integration resulting from these particular events would greatly assist strategic planners charged with mapping future U.S. policy toward Europe. With such a method planners would be able to assess the progress and prospects of such endeavors.

For the purposes of this study the integration of the European arms industry will be defined as the transformation of the national character of the European armaments industries into a regional one, manifested by well-established consortia undertaking major programs and by other permanent transnational support infrastructures. Though the rise in the frequency of collaborative projects among different European firms is an indication of the increased ease of (or need for) cooperation, merely counting the number of joint ventures undertaken per year will not result in a better understanding of the extent of industry integration. Three general aspects of such ventures need to be taken into account: the national processes of the different participants, especially those that affect arms transfers; the type of venture being undertaken, including its relative technological, national, and strategic importance; and the global environment within which the venture is proceeding (see Figure 1).

National processes may be defined as the set of unique national factors that help to determine how a specific country exploits its armaments industries as political, security, and economic tools. Knowledge of these processes may

inform judgments about which factors may hinder or further the integration process. A given venture might meet some criteria for helping to promote integration, but certain national factors may pose insurmountable difficulties.

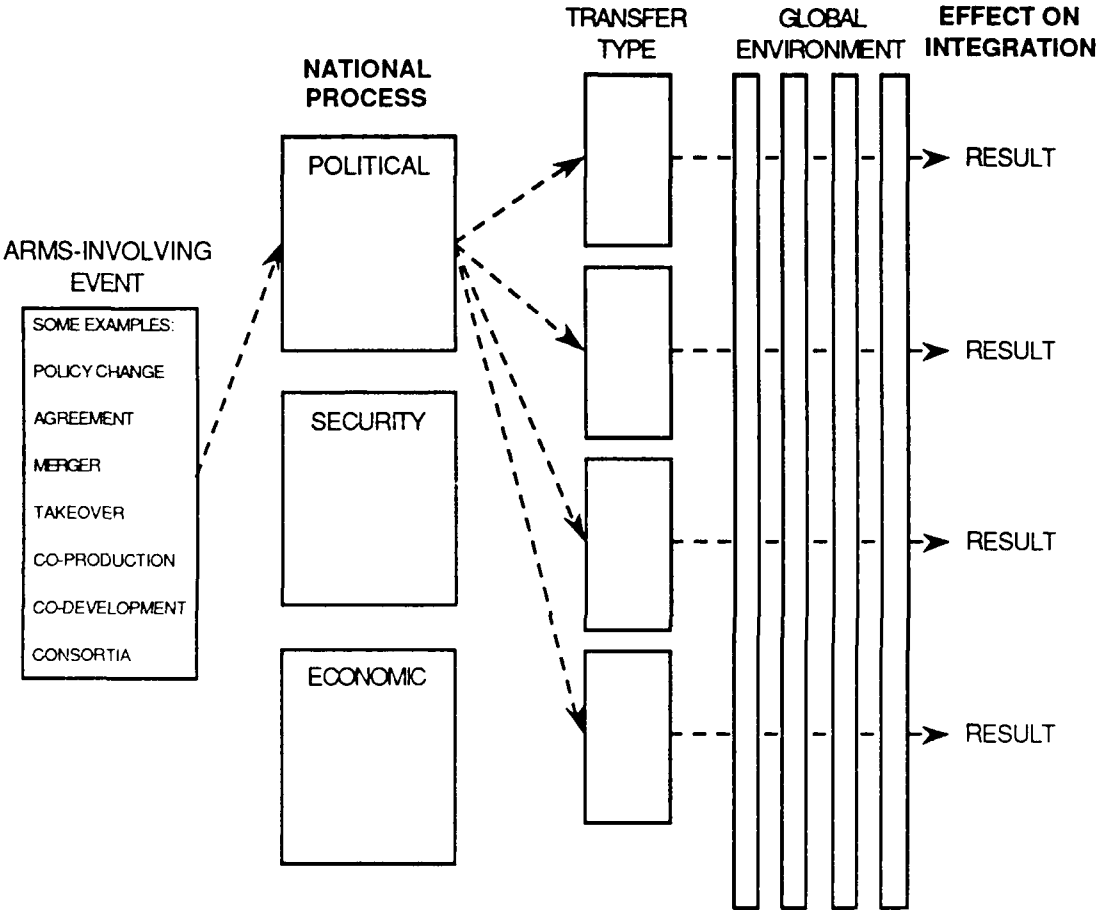

Figure 1. The Integration Testing Process

The transfer of arms includes both bullets and tanks, both accessories and jet aircraft. Such a wide-ranging industry cannot be characterized by the traits of just one of its weapons, but a certain hierarchy does exist among the different systems a nation might produce, and the more important products do seem to dominate the industry. Two of the predominant areas in the arms industries of

Britain, France, and the Federal Republic of Germany are aerospace and electronic/telecommunications.

Common to both aerospace and electronics/telecommunications and the whole arms industry has been a dramatic and constant increase in both the cost of and time of development of a weapons system. As these rise a generalization regarding the effect of the different types of arms ventures on integration can be made. For any government, *the higher the cost of a given venture and the longer the time of development of a particular weapons system, the greater the risk involved in undertaking such a venture alone.* For the purpose of this analysis it is perfectly reasonable to assume a continuous increase in the cost and time aspects of weapons development, thus the constant applicability of this generalization (see Figure 2).

The global environment includes everything that affects one nation's actions toward another. Potentially every event that has economic, political, and security implications for a nation can affect its arms industry. Over a period of time a trend analysis of certain types of events may uncover a relationship between an area of activity and arms integration. Prices of a natural resource like oil, principally because of the amount of revenue it may provide a weapons consumer, will tend to affect world arms exports. Its analysis over time may show an effect on Western European arms collaboration.

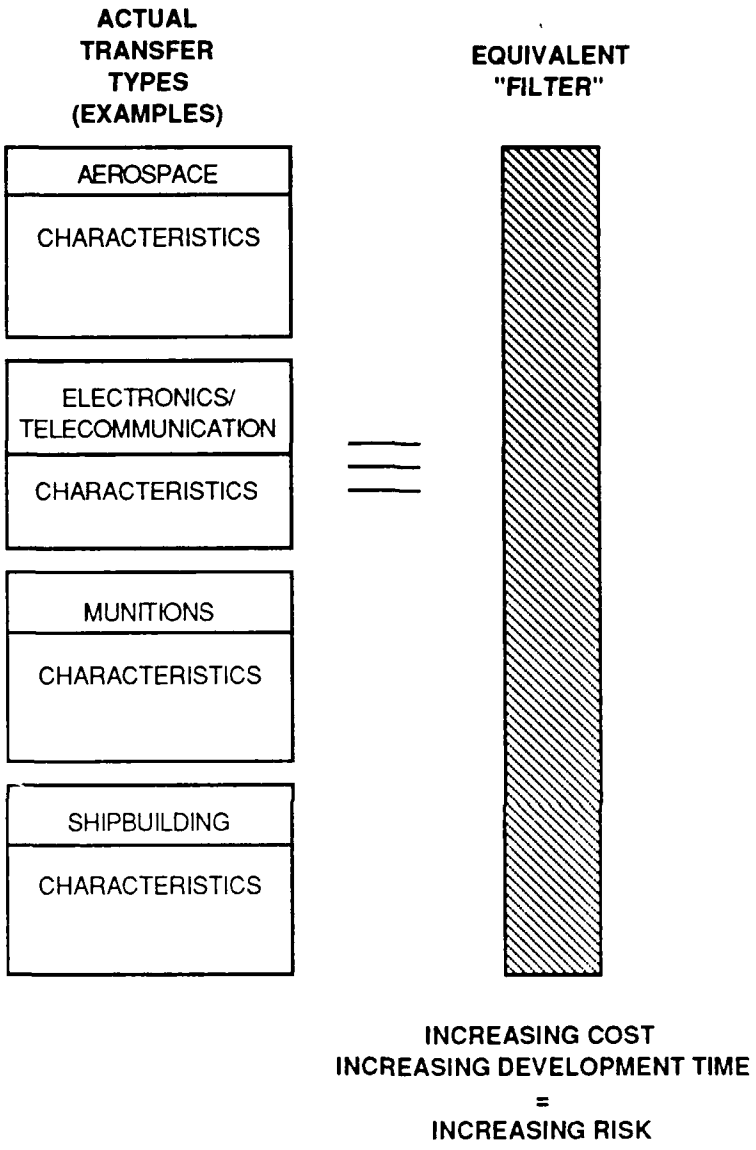

Figure 2. Weapons Type Generalization

Armed conflicts in different regions of the world might also influence the amount of collaboration between Western European arms makers as well, because such conflicts affect the available market for arms. The relationships the different arms producing nations may have with the antagonists help to determine whether exports will increase as a consequence of the conflict. When

an arms-producing nation has a traditional influence on a belligerent, it may result in increased arms sales. Increased arms sales may allow an arms industry to continue to pursue purely national interests at the expense of integration with other European states.

In fact, any aspect of the global picture that affects arms exports in Western Europe will tend to influence national attitudes toward arms integration as well. Unlike the United States, whose domestic market is capable of supporting even the most ambitious of national goals concerning a defense-industrial base, European nations cannot independently provide the support needed to keep the national arms industries in business. The only alternatives to losing the domestic capability to produce state-of-the-art weaponry are to subsidize the arms industries at the expense of both other national programs and the overall quality of life among the citizenry or to find an additional market in which to raise the revenue necessary for maintaining the industry afloat and prosperous. The latter maybe the only practical alternative in a peacetime democracy.

Experts in arms transfer trend analysis predict a continued contraction of the arms export business through the next decade [Ref 3:p. 2; 4:p. 519]. Assuming a constant or declining trend in arms exports a reasonable generalization concerning the effect of the global environment on European arms integration is that *the net effect of the future global environment will be to lessen arms exports, thus indirectly encouraging arms integration among the Europeans* (see Figure 3).

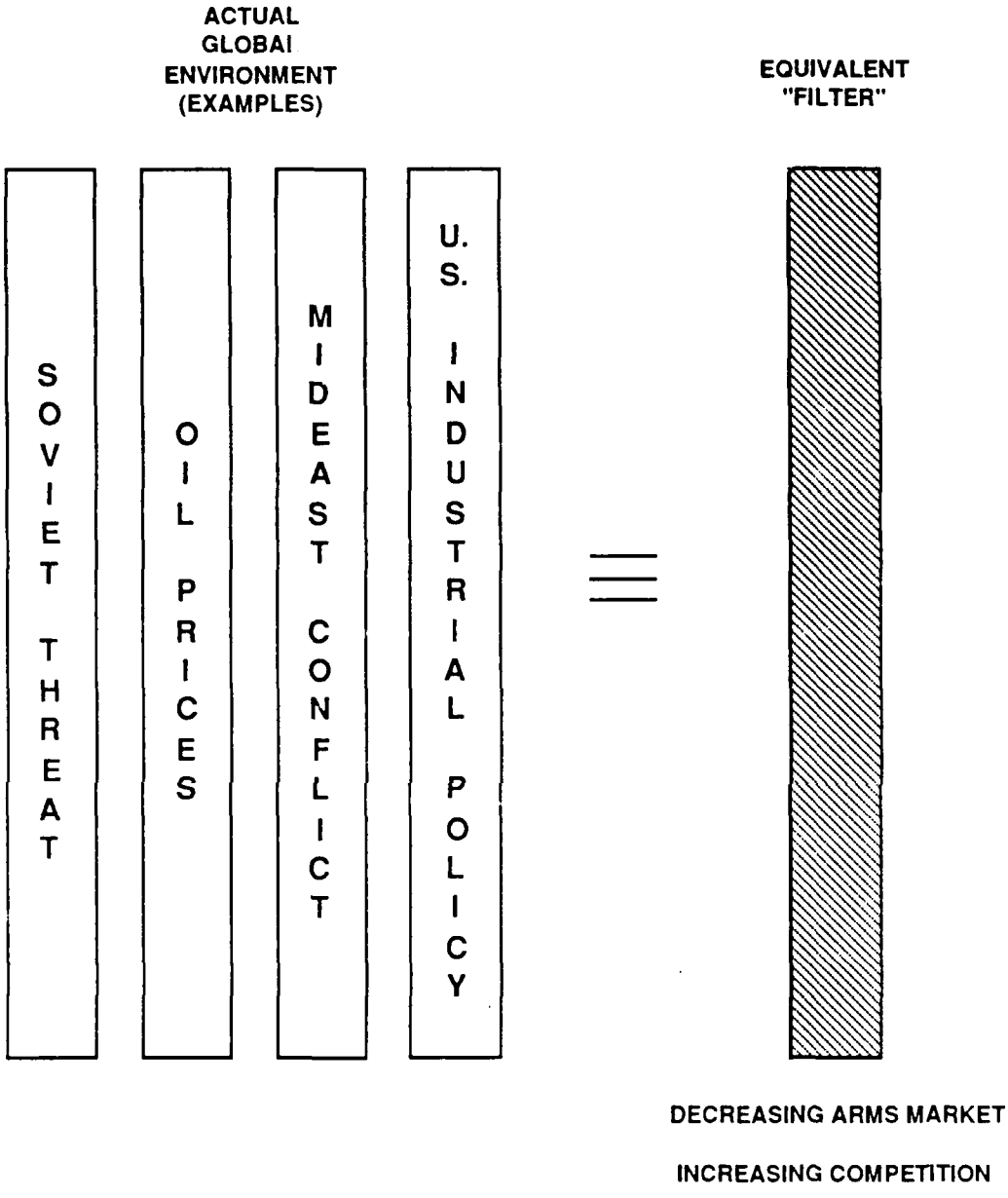

Figure 3. Global Environment Generalization

This thesis analyzes the national processes of France, the United Kingdom, and the Federal Republic of Germany in an attempt to determine the factors unique to each nation that tend to inhibit or promote movement toward integration of the European arms industries. Since the gross characteristics of

the type of venture (constantly increasing costs) and the global environment (a smaller arms market and increased competition) are known, these effects of national processes may be among the key indicators of the contribution toward integration of any particular venture. In theory, if these gross characteristics were clearly understood and their relative importance in specific cases could be identified, the significance of a joint venture involving France, Britain, or the Federal Republic of Germany for progress toward arms integration could be judged with greater confidence.

B. TRADITIONAL RELATIONSHIPS AMONG NATO ARMS PRODUCERS

As Andrew Moravcsik points out, a nation has four options for procuring major weapons systems. First, a nation may import weapons from abroad. Second, a nation may produce weapons under a foreign license (co-production). Third, a country can design and produce weapons in cooperation with foreign nations (co-development). Lastly, a country can choose to design and produce its own weapons systems.[Ref. 5:p. 65]

Over the years this has led to three distinct patterns of relationships in the area of weapons production among the major West European arms manufacturers. Weapons production is either accomplished domestically, in conjunction with the other European manufacturers, or in conjunction with the United States. The development and endurance of these relationships has been a function of both the role of NATO in national strategies and the lack of an integrated market in Europe, two of the several factors that have promoted an imbalance in the arms trade between West European nations and the United States [Ref. 6:p. 48].

While the role of NATO has continually evolved over its 40 years as an organization, reflecting the shifts that naturally occur as governments change or as economies grow and decline, until the last decade there has been no evidence of a fundamental shift away from its basic premise: the role of the Alliance is to deter aggression and defend Western security, if necessary [Ref. 7:pp. 13-16]. Recently, several issues have been raised that may threaten this basic premise. These include changed perceptions of the role of nuclear weapons, the issue of burden-sharing, and the changing perceptions of the Soviet threat.

Nuclear weapons have played an important part in NATO strategy but have also been the source of much controversy. Specifically, the American approach to such subjects as theater nuclear force modernization, the Strategic Defense Initiative, and the INF Treaty has caused some Europeans to question the long-term reliability of the American nuclear umbrella [Ref. 8:p. 36]. If the nuclear guarantee could not be counted on, a fundamental premise behind NATO would be invalidated, changing the relationships between all members.

The burdensharing issue has been present since the foundation of NATO, but the economic strength of the non-U.S. members of NATO has increased relative to that of the United States in recent decades, so these members are in a position to increase their share of the burden of the defense of Europe. How much and in what form this increase should be has been a source of contention for the last several years [Ref. 9:pp. 9-15].

The perception of the Soviet threat has changed fundamentally during the Gorbachev era. Promises of unilateral force withdrawals made in December 1988 by Gorbachev and the collapse of Communist authority in much of Eastern Europe in late 1989 have served to fuel the controversy, with the result that

members of the Alliance have different views of the threat [Ref. 10:pp. 33-36]. The most recent events surrounding Eastern Europe indicate the need for another threat assessment, taking into account the newly-formed democracies. A fundamental change in NATO is bound to occur as a result.

Another factor whose constancy has helped to maintain the traditional relationships between the arms producers of NATO has been the lack of an integrated European market. As with the NATO role, this too has been changing. In fact, since 1985 formal plans have existed to create a truly border-free internal market in the European Community by 1992 [Ref. 11:p. 75]. Throughout this market trade barriers would be lowered as an integrated European market comparable in size to the United States emerged. As a result, the basic relationship between the U.S. and Europe would change, even though the 1992 initiative does not specifically include the defense industry [Ref. 12].*

As noted above, the consistent role of NATO in national strategies and the lack of an integrated European market have resulted in basically constant relationships between the United States and major weapons-producing European nations up until the last ten years. These traditional relationships, in turn, have caused traditional obstacles to the integration of the European arms industries to remain valid through the years. The question, then, is whether the traditional obstacles to European arms integration are still valid as a result of events of the past decade? If not, what has taken their place?

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* For an overview of the potential effect of the 1992 initiative on the United States, see *Business Week*, 12 December 1988 issue; *Defense News*, 22 January 1990 issue.

C. TRADITIONAL OBSTACLES TO INTEGRATION

Before presenting a framework for estimating the extent of integration of the Western European defense industry, one basic question needs to be considered: are there valid, impassable obstacles to the integration of the defense industry in Western Europe? Finding such a hindrance would simplify the issue and allow strategic planners to nullify the effects of a unified European defense market in any future U.S. strategic plans. On the other hand, if it can be reasonably shown that such obstructions no longer exist, the problem of recognizing the trend toward defense industry integration in Europe, measuring it, and finally anticipating future steps of the process becomes worthy of study.

Traditionally, obstacles to the integration of the European defense industry have fallen into three general categories: *national prestige*, *national economics*, or *national security*. In the area of *national prestige*, an independent arms industry provided diplomatic flexibility to the makers of foreign policy as well as a perception of greater power among nations. In the area of *national economics*, expenditures by a government for arms and munitions, if spent within the nation's borders, would provide jobs and be a source of government revenue (taxation and export-stimulus). Finally, in the area of *national security*, an arms industry provided a domestic source of munitions to the armed forces.

How a sovereign nation chooses to procure the weapons it deems necessary to support its chosen foreign policy affects that policy in many ways more dramatically than what weapons it procures. Traditionally, the degree of autonomy a nation enjoyed in carrying out the full range of diplomatic options was a function of its interdependence with other nations and the perceived power credited to it. A high degree of independence in the area of arms procurement

resulted in a greater amount of *national prestige* and higher diplomatic flexibility in the international arena.

Two separate factors in modern international politics and security policy have combined to lower the diplomatic value of an independent arms procurement policy: nuclear weapons and the rising cost of technology. These in turn have contributed to an increased emphasis on the *economic aspect of arms procurement* and collective defense efforts in general. Th s has been particularly evident in Western Europe.

The advent of nuclear weapons has caused a new light to be shed on how nations deal with each other. Since the end of World War II the world has been divided between those nations possessing nuclear weapons and those nations that do not. The power derived from possessing nuclear weapons is never so apparent as when dealing with a nation not having that capability, and this generally adds to the breadth of options a nation enjoys along traditional lines of diplomacy. As General Charles de Gaulle stated in 1961, "a great state that does not possess [nuclear weapons] while others do is not the master of its destiny." [Ref. 13:p. 23]

In relations between two countries, the traditional value of arms independence is not seriously affected by nuclear weapons when neither side has them. When both nations possess nuclear weapons, however, the traditional value of arms procurement independence is altered most dramatically. Rather than a buildup of nuclear weaponry achieving greater diplomatic flexibility, the rise of the destructive potential of a nation's arsenal is so potentially catastrophic that it lessens the propensity to go to war in order to solve political disputes.

It is evident that the possession of nuclear weapons or formal ties to nations with nuclear weapons is necessary in order to avoid being in a disadvantageous position *vis-a-vis* a nation having them. France chose to develop her own independent nuclear force, Great Britain has a force maintained with assistance from the United States, while other European nations such as the Federal Republic of Germany have settled for the United States' nuclear guarantee under the auspices of NATO. In any case, once a nation has one of these nuclear prerequisites, the diplomatic value of arms procurement independence once again increases, but the rise in the cost of technology necessary for modern weapons production places its own constraint on procurement policies.

To illustrate this rising cost, in 1955 the United States spent approximately 7 billion dollars to procure 1400 military aircraft (1982 dollars). In 1982, 14 billion dollars were spent to buy 200 aircraft [Ref. 14:p. 7]. The oft-repeated price of a B-2 bomber is 500 million dollars per aircraft. The rising cost of technology has forced a reevaluation of arms procurement policies within each nation.

Just as the diplomatic value of arms procurement independence to a modern nation has been diluted due to nuclear weapons and the rising cost of technology, the economic aspects of collective defense have increased in importance due to the same factors. Specifically, the complexity of modern weapons systems provides thousands of jobs at both the contractor and sub-contractor level, as well as a significant return to the government due to taxes. Since the cost of procuring weapons is a significant and controversial part of a nation's defense budget, domestic production can be the overriding factor on whether a program is funded.

Article 223 of the Treaty of Rome, the agreement establishing the European Community in 1957, exempts defense related industry from EC controls [Ref. 15:p.]. However, the face of the European economy has been changing as the continent prepares for the coming of the internal market in 1992. The acceptance of an internal European market is a basic step toward a transnational approach toward economics, which many experts feel is bound to spillover to defense issues [Ref. 16:p. 43; 17:p. 1044]. At the very least an increase in nationalistic tendencies in arms procurement would be contrary to the economic trends in Europe as a whole.*

Historically, nations have used domestic arms production as the major means of supplying their armed forces. Between 1985 and 1989, for instance, France procured 80% of her major weapons systems domestically, the United Kingdom 75%, and the Federal Republic of Germany 45% (with an additional 20% from co-production) [Ref. 5:p. 66]. But does this imply that domestic production is necessary for security reasons? In looking at the development and continued refinement of the concept of collective defense as it applies to Western Europe, nothing points to the maintenance of a domestic arms industry for the sake of *national security* less than NATO.

The North Atlantic Treaty Organization (NATO) was established in April 1949. The signatory nations were "resolved to unite their efforts for collective defence and for the preservation of peace and security."[Ref. 7:p. 13] Needing to

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* For a more complete treatment of the 1992 issue, see Anthony Hartley, "After 1992: Multiple Choice," *The National Interest*, Spring 1989; for a guideline on procurement plans, see *Towards a Stronger Europe*, v. 1, Independent European Programme Group, December 1986.

face an aggressive Soviet empire to the east, war-weary Western European nations joined with the United States and Canada in an alliance in which member states committed their armed forces to the defense of the whole.

From its very beginning NATO's muscle was the military and economic strength of the United States. The United States guaranteed a nuclear and conventional presence to her West European allies that, in 1949 and years to come, no other member could match. Reliance on the United States was the most effective as well as the most efficient means to achieve typical security goals: prevention of attack by an enemy who, without the U.S. to consider, would have an overwhelming correlation of force advantage; in case of invasion, an assurance of support from the strongest possible ally; and protection against nuclear blackmail.

In its ideal state, NATO is a collection of sovereign nations who willingly structure their defense posture around the needs of the Alliance. In order to form a strong, cohesive alliance with maximum efficiency, it would seem logical that member nations contribute to the Alliance according to their strengths. The most efficient arms producers would supply weapons to the other members of the Alliance, who would contribute according to their own strength. Collective defense would only be taken to this extreme if the only concern of the Alliance was security, with political and economic issues discounted. In theory the approach to defense embodied in NATO, collective defense, would be most effective if the responsibility for making weapons is given to the most efficient producers regardless of national concerns.

In reality, weapons production does not completely follow the most-efficient-producer principle, though it has led to dominance by the bigger members of the

Alliance: France, Britain, the Federal Republic of Germany and, of course, the United States. These three European members of NATO account for roughly 75% of the defense spending in NATO Europe, though the United States produces more of some types of weapons systems than all other NATO allies combined [Ref. 18:p. 107]. As a result, the European arms industry can be considered a reflection of the three nations who control most of it: France, Britain, and the Federal Republic of Germany. This reasonable assumption is based on the idea that no real movement toward integration could take place without the involvement of these three nations.

D. IMPLICATIONS FOR THE UNITED STATES

If obstacles to European arms production integration are either removed or replaced, the United States will be affected in at least three areas. If an integrated European defense market emerges, the U.S. defense industry will be faced with having to deal for the first time with a foreign partner of equal size; and many of the comparative advantages that go with a size advantage (longer production runs, broader R&D base) would no longer exist. The attractiveness of an American partner would not be as obvious as it once was, and the resulting decrease in cooperative ventures could affect the U.S. ability to maintain a complete defense-industrial base.

A second area affected by an integrated European arms market would be U.S. foreign military sales. The same advantages that are beneficial when dealing with a foreign partner in a joint venture are often the major selling points for a weapons system to a foreign government since they result in a lower unit price for the weapon. When the European rival has negated that advantage,

the relatively restrictive arms export policy of the United States government may well put the U.S. at a disadvantage in the international arms market.

U.S. defense policy would also be affected by an integrated European arms market. For one thing, an integrated market would surely mean closer ties among the European countries, perhaps resulting in a true European pillar. Not only would the United States have to look to Europe as an equal, the United States' presence in Europe would be much less needed for security or stability, allowing an American shift in security emphasis toward the Pacific [Ref. 19:p. ii].

In an age of shrinking arms markets, increasing costs of weapons, and ever-tightening defense budgets, it is imperative to have accurate indicators of defense market trends. With the potential effect of the recent changes in Europe on the shape of the arms industry, this is especially true in Europe.

E. THEORY OF EUROPEAN ARMS INTEGRATION WITH RESPECT TO NATIONAL PROCESSES

It is possible to identify three types of national processes when examining the potential of arms integration in Europe: processes that hinder, processes that help, and conditional processes. Processes that hinder have characteristics which frustrate efforts toward arms integration independent of any outside influence. If France, Britain, or the Federal Republic of Germany, for instance, had a national strategy that called for a unique weapons system mix, that nation's strategic policy would hinder efforts at integration under any circumstances.

At the other end of the spectrum are processes that help the move toward integration irregardless of the condition. A national procurement plan that is based on acquiring weapons at the lowest price with no national preference is an

example of a process that should, in theory at least, promote integration in all cases.

Conditional processes either help or hinder the integrative process depending on other aspects of the venture, including other processes involved, the type of venture, and the global environment. Though complex and elusive, conditional national processes are perhaps the most numerous type. The difficulty of recognizing the conditional type of process is made much easier if the non-process aspects can be identified.

When dealing with European arms industry integration it has already been determined that a valid generalization is reasonable for the non-process variables of types of ventures and global environment. Major ventures are becoming costlier and taking longer to reach fruition, and are therefore continually getting riskier. The global environment affects the integration effort through its effect on arms exports, which will probably continue to decline over the next decade. Using the plausible assumptions of ventures getting riskier and exports continuing to decrease, recognizing the effect toward integration of a particular French, British, or German process becomes possible.

Stated simply, this theory of measuring arms integration involves two steps. First, for a given arms event (joint venture, announced sale, merger or acquisition, government policy decision, etc.) the general reason for a country's involvement in that event (political tool, security tool, or economic tool) must be chosen. A multi-faceted deal maybe explained by more than one reason, but an attempt to focus on the underlying motivations on the part of France, Britain, and the Federal Republic may permit a more perceptive analysis. If more than

one reason is to be considered, each analysis can be done separately, with comparison of the different results weighted toward the more significant.

Once the primary reason for French, British, or German involvement is isolated, it becomes necessary to filter it through the aspects of that particular type of venture as well as the global environment. Both of these variables, as previously argued, can be generalized and considered constant for heuristic analytical purposes. The value of the filtration mechanism is its labeling of an otherwise conditional process. The net result is a valid characterization for a particular event involving France, Britain, or the Federal Republic of Germany as either a hindrance toward European arms integration or a help toward its fruition. As an example, assume France and West Germany were contemplating collaboration on a new generation of main battle tank. The primary reasons for producing the tank could be quite different for each nation, France for its export potential (economical) and West Germany for its use on the Central Front (security).

Because of the rising cost of ventures, this effort would seem to naturally promote integration. However, the underlying reasons for collaborating are affected differently by the global environment filter, which reflects the lowering potential for arms exports, which reflects the lowering potential for arms exports. Though West German desires might be unaffected and still reflect collaboration, the reasons would succeed and *promote* integration, French efforts would be affected by this filter and the arms event would *hinder* integration. The pictorial representation of this process is captured in Figure 4.

F. NATIONAL PROCESSES AFFECTING ARMS PRODUCTION IN FRANCE, THE FEDERAL REPUBLIC OF GERMANY, AND THE UNITED KINGDOM

A national government has a vested interest in the arms industry within its borders encompassing much more than the design, production, and sale of its products. On the one hand, like any other business that employs large numbers of citizens, a national government has a general interest in the health of the industry. Several aspects of the arms industry combine to make it unique, however. A nation's arms industry can be utilized as a political tool, a security tool, and an economic tool by those in power.

1. The Potential of the Arms Industry as a Political Tool

The use of a nation's arms industry as a political tool can affect domestic issues as well as foreign policy objectives. The w[illegible] political party striving for election promises to use the arms industry as a way to provide jobs once placed in power, the size of the voting bloc represented by the arms industry, and the importance of strategic independence in a party's campaign platform can indicate the importance placed on strong government involvement in the industry.

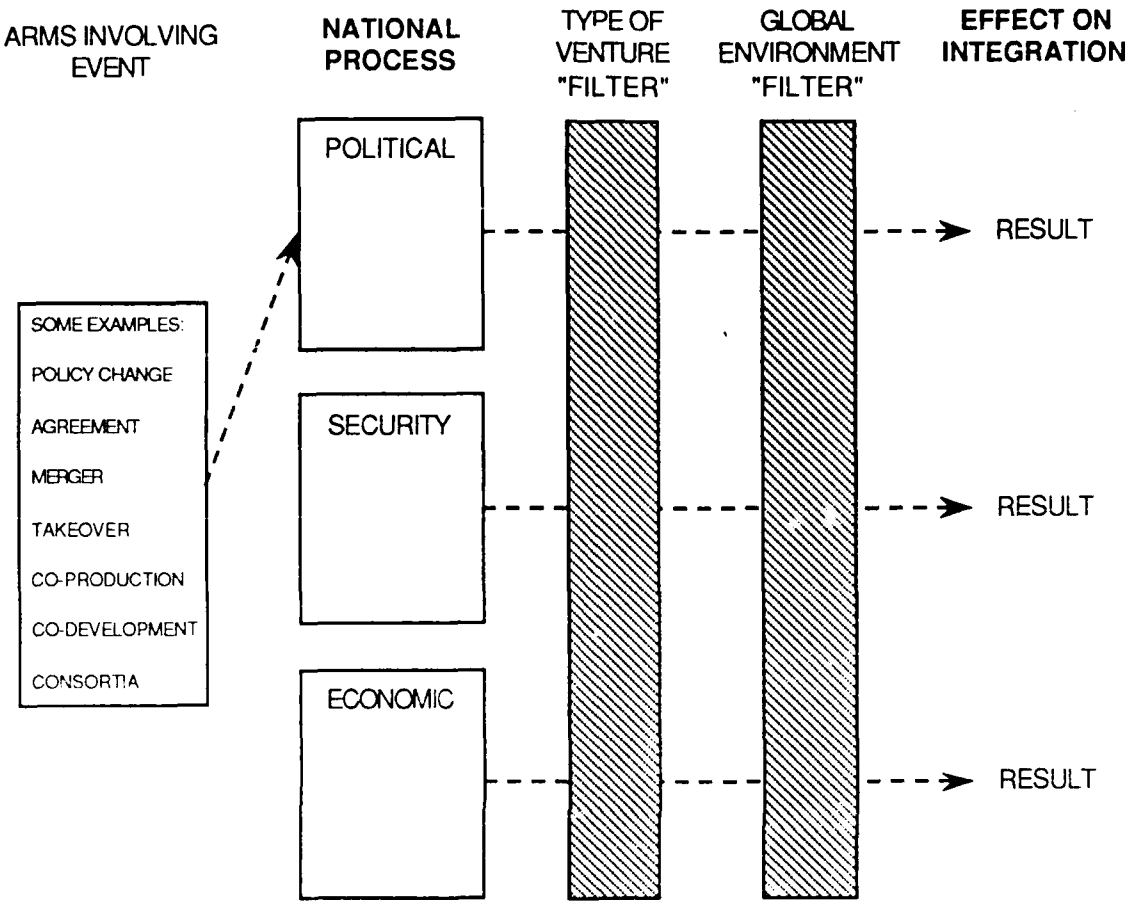

Figure 4. The Integration Testing Model

In a nation with an established arms industry, a certain amount of political influence on the part of industrial leaders can be assumed. When the level of influence is high, perhaps as a result of campaign contributions or due to an organized lobby, the arms industry becomes more than a passive political tool, it becomes a political force. Its influence on domestic issues then is more significant, more public, and more of a consideration in the making of policy. This means, for example, that the arms industrialists could be included in the national policy making process.

As a political tool, a nation's arms industry can be used to support its foreign policy objectives. As a way for allowing strategic independence, an arms industry may provide negotiating leverage in a nation's dealings with another power. If dependent on another nation for something as important as arms and munitions, a country may be hard-pressed (depending on other specific factors in its circumstances) to negotiate fair trade agreements on foodstuffs, raw materials, or finished products. Attempts to sway international opinion may be less successful, and it may have fewer options for dealing with regional disputes.

The use of arms as an export also provides an opportunity for a nation to establish influence with countries not having an arms-making capability. Becoming another country's supplier of arms can create an infrastructure on which a deeper relationship may be built, one which otherwise may not be possible. If relations with a developing nation are desired by an arms-producing nation, an ability to export weaponry may be significant.

2. The Potential of the Arms Industry as a Security Tool

The diplomatic value of having a national arms industry has been discussed previously, both the aspects of international perceptions and actual independence. A complete or partially complete defense-industrial base is also important in national mobilization planning. If allies are closely entwined, each with different roles in the alliance, the importance of a specific nation's arms production depends on its role. If its contribution to the coalition is based on the supplying of arms, any move to weaken its national arms base would make its contribution less valuable.

By its continued contribution of a strong defense-industrial base to a coalition, a nation might find that its arms industry functions as an effective

alliance stabilizer. In such a case, a movement toward transnational consolidation might tend to disrupt certain political relationships within the alliance, and the implications of this disruption could be significant. Though the establishment of a transnational defense industry could be just as stabilizing in the long run, its initial effects could be far-reaching.

Mobilization and alliance issues aside, a national armaments base allows for more independent action on the part of a sovereign nation. In the matter of national security, the knowledge that it need not rely on another nation for arms may result in fewer constraints in dealing with rivals and allies alike. The net result may be a foreign policy that more explicitly reflects the national interest and a clearer national strategy.

3. The Potential of the Arms Industry as an Economic Tool

Certain parts of the arms industry are also economically significant. Weapons exports, for example, can provide the government an opportunity for political influence, a means of earning hard currency, and a contribution to maintaining a broad defense-industrial base.

Another national statistic of economic importance is employment. The number of jobs the industry provides the nation has been shown to be of political value, but in economic terms it can also be significant. Just as they can form a large voting bloc, employees of the nation's arms industry can comprise a large shopping bloc. Because of skill specialization, many employed in the arms industry cannot cross over into other industries without additional training. This loss of efficiency may only be temporary, but a weakening of the arms industry might have long-term effects in the number of technically trained individuals available to all of industry.

This last point dealing with trained personnel also has a parallel in the area of technology. Technological advances are made as a result of an active research and development effort on the part of a nation. In some countries, a healthy armaments industry has an important effect on the size of the national research and development base. Weakening that industry may have the long-term effect of shrinking that base, perhaps with no national substitute, depending on the character of the country's national research and development policy.

A strong research and development effort also results in an increased number of spinoffs to the private sector. These spinoffs may allow the private sector to compete internationally. A technological spinoff initiated by the arms industry that results in a comparative advantage in the international private market increases the hidden value of arms research and development. The increasingly dual use aspect of modern technology only accelerates this trend.

The extent to which France, the United Kingdom, and the Federal Republic of Germany make use of these potential tools is a function of the political process, leadership choices, the relationship between government and industry, and the national strategy of each country. Each of these factors is analyzed in the next three chapters to determine what elements of the national approach to the arms industry may tend to hinder or promote European arms integration. The ability and willingness of each nation to limit its use of policy mechanisms which hinder European arms integration or expand the use of arrangements which aid the integration process may become important indicators of the likelihood of progress in integration.

II. THE FRENCH ARMS INDUSTRY

A. OVERVIEW OF THE FRENCH ARMAMENTS INDUSTRY

Traditionally, the armaments industry has been an important instrument of France's national strategy. In order to maintain its position as a world power France has felt it necessary to maintain a strong, diverse armaments industrial base [Ref. 20:p. 1]. With this need as its major justification the French armaments industry has come to be characterized by many factors revolving around one central concept: the preeminent role of the State.

The French government exerts influence over the armaments industry in a variety of ways: indirect control by very centralized support institutions, direct control through sole or majority ownership in major corporations, and as the purchaser of approximately 40% of the weapons production. An example of a centralized support institution is the *Delegation Generale Pour l'Armement* (DGA) whose aim, according to Jean-Francois Briand, executive Vice President of Thomson-CSF, "has been self sufficiency in major strategic defense arenas" using both public and private French companies [Ref. 21:p. 23]. Thomson-CSF is an example of a nationalized conglomerate directly influenced by government policy.

The French government controls the procurement of weapons systems by the French armed forces. In a recent example, the French navy, faced with the prospect of retiring its fleet of F-8E (FN) Crusader aircraft in 1993 without an available replacement from the French inventory (the naval version of the Rafale is intended to reach the fleet in 1998), lobbied aggressively for the procurement

of 15 second hand McDonnell Douglas F/A-18 aircraft from the US Navy, arguing that this approach was the only acceptable way of meeting its requirements of air cover for its two aircraft carriers. As stated by the French Navy's deputy chief of naval operations, Vice Admiral Yves Goupil, "We only need the F/A-18 for five years, and we'd then replace it with the Rafale." [Ref. 22:p. 4]

The decision, however, has been made to refurbish the aging Crusaders (with safety as the main refurbishment objective) rather than to purchase the American F/A-18s. With an eye toward the export market, a senior defense ministry official stated, "If the French Navy had bought the F/A-18, it would have given [McDonnell Douglas] a very significant marketing edge over Dassault [builder of the Rafale] in future foreign sales." [Ref. 22:p. 4] Citing the success of the Rafale program as a national challenge, French defense minister Jean-Pierre Chevenement called the maintenance of a competitive French aeronautical industry "part of the defense of France." [Ref. 23:p. 16]

The structure of the arms industry is very unique and original.* Specifically, the many nationalized industries such as Aerospatiale, Thomson-CSF, and SNECMA (*Societe Nationale d'Etude et de Construction de Moteurs d'Aviation*) coexist with some 3500 private companies of all sizes, the largest of which are Dassault and Matra [Ref. 24:p. 187]. Over the years in the aerospace industry, for instance, different mergers and acquisitions resulted in the forming of Aerospatiale in 1970 and Dassault-Bregeut in 1971 [Ref. 25:p. 18]. Dassault is

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* For a complete treatment of the French arms industry, see Chapters 3 and 4, Kolodziej, E. A., *Making and Marketing Arms: the French Experience and its Implications for the International Systems*, Princeton University Press, 1987.

a family-run company specializing in fighter aircraft. The French government owns 40% of the shares and thereby controls voting at annual meetings due to the government's double voting rights [Ref 26:p. A10]. However, the Dassault family owns the majority of shares and Serge Dassault is chairman. Matra is a defense and electronics firm whose 50.97% interest owned by the government was sold to the public in January 1988 as part of Finance Minister Edouard Balladur's policy of denationalization of state assets [Ref. 27:p. 25].

Aerospatiale is a state-owned aerospace corporation with a broad base of commercial interests. It controls smaller organizations in supporting industries--for instance, three sub-companies in the area of electronics support its role as an aircraft manufacturer: SFENA deals with flight control and navigation, EAS with radiocommunications, and Crouzet with a large variety of aeronautical needs. Its top executives are chosen by the government, so the positions entail a direct political aspect not seen in the United States.

The *Groupement Industriel des Armaments Terrestres* (GIAT) is the industrial arm of the government organization tasked with testing and manufacturing ground combat equipment, the *Direction des Armements Terrestres* (DAT). The equipment it produces ranges from hand-held weapons to main battle tanks. Giat is an example of an organization beset with all the problems of inefficiency common to a government-run monopoly. Recently this has caused the government to make changes in its administration [Ref. 28:p. 8].

As Jeffrey Clarke has noted, France's current military-industrial partnership dates from 1936, when legislation gave the state the authority to nationalize certain private arms-producing industries. The way in which the state could do this was via outright annexation of a firm, resulting in direct control, or by

purchase of a percentage of stock in the company [Ref 29:p. 46]. Recognizing the need to compete with more industrially powerful rivals, France sought a centrally controlled arms industry that did not inhibit the spirit of free enterprise. The present defense-industrial complex in France reflects this through its centralized procurement policies, the embodiment of which is the DGA.

The DGA is responsible for weapons development and procurement for all three French services, and is answerable directly to the defense minister, not the armed services. The staff of 25,000 includes about 1000 military officers whose careers are not endangered as a result of opposing a weapon system favored by a particular service. As Francois Heisbourg, director of the International Institute for Strategic Studies and a former French arms official, states, "[Military officers in the DGA] are inter-service and inter-service all their lives and so have no fear of saying no to a new tank and going back to the army three years later to face a firing squad." [Ref. 30:p. 30]

Frequent complaints are levied against the DGA. In the view of some arms industrialists, the fact that the DGA is staffed mostly by bureaucrats and not by people who know the workings of a company often results in unreasonable demands placed on industry. In the view of some in the armed forces, the same attribute may result in an inferior weapon. In the view of some potential foreign buyers, the DGA system has effectively killed competition in the French arms industry, resulting in predictable products. The concentration of power in the DGA also requires a forceful defense minister in order to keep it in line [Ref. 30:p. 30].

Despite these alleged shortcomings, this centralized control seems to have served France well since the DGA was created in 1961 by Charles de Gaulle. In the words of a former DGA official,

> The fact that France has had the DGA has enabled us as a medium-size country with a limited defense budget to develop a coherent, effective, efficient nuclear and conventional defense industry second only to the U.S. within the Western alliance. If we had wasted our resources for the past 25 years we would never have been able to do it. [Ref. 30:p. 30]

The DGA has directed weapons procurement from France's nationalized defense industrial base. Its powerful role in the French arms procurement cycle ensures that it will have a prominent position in a more Europeanized cycle.

B. FRENCH ARMS AS A POLITICAL TOOL

French politicians have frequently called attention to France's position as a great and independent world power. In the 45 years since the end of World War II appeals to national grandeur have had greater resonance with the public in France than with the publics in either the Federal Republic of Germany or the United Kingdom. The French strategic style can be characterized by a preoccupation with considerations of Great Power status. As stated by President Mitterrand in May 1989, one of the three instruments used to support the resulting strategy of independence and status is the national industries [Ref. 31:p. 8].

Though most often seen as an essential element of traditional Gaullist security policy, a capable military-industrial establishment is also important in domestic politics and economics. Most specifically, the large defense-industrial complex provides many jobs for Frenchmen. The French armaments industry

accounts for approximately 280,000 jobs, representing 3.6% of the total national workforce [Ref. 24:p. 187].

This fact has two implications for governmental leaders. First, the workers in the armaments industry represent a large voting bloc, one which needs to be taken into account when formulating policy. Second, disruptions in an industry with so many workers could have national economic ramifications, causing a rise in unemployment and inflation. These considerations may constrain the national leadership in carrying out needed reforms in state-run firms. The state-run GIAT is a case in point. The prospect of rising unemployment has limited the changes made by the government to lessen inefficiencies in the GIAT organization [Ref. 32:p. 13].

The political influence wielded by industrial leaders varies, depending on both the product presented and the personal charisma of the industrialist, as well as the amount of state control wielded in their businesses. For instance, Marcel Dassault, the late founder of the company bearing his name, was so influential that it was said that his company chose which fighter jets France would develop, not the government [Ref. 33:p. A12]. Today Dassault-Breguet is still France's only maker of fighter jets, but under the leadership of Marcel's son Serge the firm has become much more dependent on the decisions of politicians. When made chairman of the firm in October 1986 six of the board members, those appointed by the government, abstained rather than vote for his election, not voting against him only because the Defense Ministry wanted to avoid open battle [Ref. 34:p. 36]. Frustrating to the rest of the industry, the dominating attitude of Dassault-Breguet has limited France's involvement in international

projects and kept other French firms from being sub-contractors for European-wide fighter projects like the European Fighter Aircraft [Ref. 33:p. A12].

Because of the level of state involvement, however, some potentially influential industry executives are rather muted. Alain Gomez, for example, as head of Thomson S.A., a giant arms and consumer electronics firm, had been a political appointee as a former Socialist Party activist. His base of support eroded as he became too independent-minded to please the various political power centers [Ref. 35:p. A9].

Though not taking into account such things as industrialist charisma three steps cited by Defense Minister Andre Giraud in 1987 seem to indicate the relative position of arms industrialists: governments define the alliances and policies; the armed service chiefs define the military requirements, and industries play the key role in producing for the markets *thus defined* [Ref. 36:p. 32].

Industrial policy is dependent on national policy, but the lack of clear national support does not paralyze the industry. A good example seems to be the reaction to the American Strategic Defense Initiative. The cornerstone of French defense policy over the last 25 years has been nuclear deterrence, and concern for the devaluation of such a policy due to SDI (and other considerations) prevented the French leadership from offering full support to the project. Though Gaullist Prime Minister Jacques Chirac called SDI a "great, inevitable, irreversible, and justified movement", he refused to sign an agreement with the United States which would facilitate the granting of research contracts to French firms [Ref. 37:p. 24].

As a result, firms anxious to earn SDI money did it without government support. The SDI manager for Matra, in describing the steps needed to achieve

an SDI research contract worth $508,000 in October 1986, said "We had to clear all the obstacles, including [official] French indifference." [Ref. 38:p. 40]

Further movement by industry without pushing by the government seems to be occurring with marketing strategies for the opening of the European internal market in 1992. Though most areas of defense procurement are officially exempt from the agreement signed in February 1986 known as the Single European Act, the potential effect of a border free European Community has the arms industry preparing for a wide range of options. In discussing joint ventures in the defense related industries, Thomson-CSF Vice President Jean-Francois Briand has urged, "Don't wait for government prompting to cooperate." [Ref. 21:p. 23]

Recent French government activity in the area of mergers and acquisitions seems to have lagged behind that of similar efforts in the Federal Republic of Germany and the United Kingdom. After Daimler-Benz announced plans to take over Messerschmidt-Bolkow-Blohm in the Federal Republic and British Aerospace the takeover of Royal Ordnance in the United Kingdom, it was only a matter of time before French industry got involved. At the end of November 1989 Aerospatiale and Thompson-CSF announced plans to combine efforts in the area of flight electronics [Ref. 39:p. 34].

Traditionally, the French arms industry has been a tool of foreign policy both within Europe and throughout the world. Within Europe, the autonomous development of nuclear weapons was consistent with pronouncements regarding France's intent to retain control over her national identity. France also used cooperative ventures with foreign policy objectives in mind. In his study concerning multinational development of large aircraft, Mark Lorell notes that

France used codevelopment projects with the Federal Republic of Germany as a political strategy to place Germany in a position of subordination and as a way to take the leadership of European projects without the involvement of the United States [Ref 40:p. 10].

France has used the export of arms in those areas of traditional French influence to offset the loss of leverage from the granting of independence to former colonies. France continues to perform a stabilizing role in her former colonies in Africa. Even though the economic incentives are less in that region than others, for political reasons France protects its traditional role as an arms supplier.*

Libya (6th), Algeria (13th), and Nigeria (16th) are the only central or northern African nations (excluding Egypt, which is considered a Middle East nation) which ranked among the twenty largest Third World arms importers between 1982-86, and they accounted for only 7.8% of the total [Ref. 41:p. 201]. During this same period France accounted for 15.1% of the total arms exports to Third World nations, and its top five recipients of arms (Iraq, Saudi Arabia, India, Argentina and Egypt) did not include any central or northern African nation [Ref. 41:p. 193]. Thus, France's involvement in arms exports to this region was of low economic utility relative to its political utility.

Three government agencies support the French defense industry in its export efforts: the *Compagnie Francaise d'Assistance Specialisee* (COFRAS); the *Societe Francaise de Materiels d'Armement* (SOFMA); and the *Societe Francaise d'Exportation de Systemes d'Armement* (SOFRESA). COFRAS is a training

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* See Kolodziej, Chapters 5-7.

organization established in 1972: its task is teaching foreign armies about French arms. SOFMA, established in 1939, is the exporting agent of state-owned establishments. It is made up of shareholders from within the defense industry. SOFRESA was set up in 1974 to support French industry in exports to Africa and the Middle East. It assists both state-owned and private manufacturers [Ref. 42:p. 189].

These organizations further consolidate the dominant role of the State in the arms industry, but also create an official infrastructure with the potential to represent France in a more transnational arms industry. In the final analysis, however, the presence of these national organizations may hinder moves toward permanent multi-national relationships, as they represent organizations whose existence is based on a national character.

C. FRENCH ARMS AS A SECURITY TOOL

The most basic justification for a nation to develop and support an arms industry is national security. France in the post-World War II era has developed and maintained a nuclear and conventional weapons base sufficient to support a global security policy. Through nuclear deterrence France has pursued a "no war" strategy, but out-of-area interests in Africa, Indochina, the Middle East, the Pacific and elsewhere have necessitated the maintenance of a wide range of conventional forces as well.

France, with her independent nuclear deterrence posture, has not relied on national mobilization capability in her strategy. An important reason for her withdrawal from NATO's integrated military structure in 1966 was French insistence on an immediate nuclear response to Soviet aggression while the rest of the alliance was moving toward the doctrine of flexible response, which

emphasized the ability to respond to aggression with conventional forces as well [Ref. 43:p. 476]. In 1982, Defense Minister Charles Hernu stated the French logic of deterrence and the implicitly minimal role of mobilization: "One cannot believe in deterrence and at the same time not believe in it, found one's defence on nuclear weapons and prepare for conventional war." [Ref. 44:p. 14]

One result of this policy has been an underemphasis on stocks of munitions and equipment over the years, for both active and reserve forces. This, in turn, has made a complete defense industrial base for the purpose of national mobilization less important than for other purposes. The formation in 1983 of a *Force d'Action Rapide* (FAR) and the reorganization of the French army that year have been viewed as proof of increased emphasis on conventional capability, and protocols signed in January 1988 set up a Franco-German defense council to discuss common defense issues as proof of increased French involvement in the common defense [Ref. 45:p. 29].

At the same time a renewed emphasis on conventional capability may signal an increase in the need for a complete defense-industrial base for the purpose of mobilization, the increased role in NATO represented by this newly emphasized capability indicates greater French willingness to recognize interdependence in security matters. As a result, an independent defense-industrial base may become less important.

D. FRENCH ARMS AS AN ECONOMIC TOOL

The French arms industry is a significant economic tool for the nation in the areas of exports, employment, and technology. In the resource-constrained area of French military procurement exports are essential to maintaining domestic arms-producing capability, a basic element of traditional French policy. These

industries, in turn, provide constant employment to a large number of Frenchmen. Military research and development efforts account for a large percentage of the overall national research effort, (21%) less than the United Kingdom (28%) but greater than the Federal Republic of Germany (40%) [Ref. 46:p. 303].

For the 5 year period 1984-1988 France was the third leading exporter of arms in the world, behind only the Soviet Union and the United States. During this time France exported over 17.9 billion dollars worth (1985 prices) of arms, 14.7 billion dollars worth to Third World countries. Though only about one-third the U.S. total and just over one-fourth that of the U.S.S.R., French totals were twice those of her nearest competitor, the United Kingdom [Ref. 47:p. 199].

Other statistics tend to qualify the impression conveyed by these facts, however. For one thing, the Iran-Iraq war participants accounted for 22 percent of French arms exports between 1982-1986 [Ref. 4:p. 509]. With the lessening of tensions the amount of arms transfers to these nations has plummeted. In absolute terms, French arms exports to the Third World dropped from 3.4 billion dollars in 1986 to 1.7 billion dollars in 1988 [Ref. 47:p. 198]. Jean-Guy Branger, a deputy of the Defense Committee of the National Assembly, cites three reasons behind this decline: drops in the revenue of traditional buyers; the advent of new competitors and more aggressive traditional competitors; and systemic weaknesses in the French arms sales system, including the obsolescence of organizations such as SOFMA and SOFRESA [Ref. 48:p. 44].

Arms exports also play an essential role in maintaining a defense-industrial base. Most French arms producers rely heavily on exports to stay in business:

Dassault-Breguet (73% of turnover is export), Matra (70%), and Aerospatiale (62%) are three examples [Ref. 24:p. 187]. During periods of a strong export market maintaining an effective industrial base is simpler and less costly to the individual nation, and the strategic choices regarding the maintenance of a national defense-industrial base are relatively easy to consider. It is during periods of a shrunken market and increased competition for arms sales that the issue becomes even more urgent.

The French arms industry employs about 280,000 people, spread among many firms. The largest arms employer is Aerospatiale with about 35,000 employees [Ref. 49:p.]. As most of the French arms industry is centered on technologically advanced products, industry employees are among the more highly educated members of society. If the market for arms exports continues to shrink and fiscal contraints limit the domestic market, reductions in this work force are inevitable. An example is the 1987 laying off of some Dassault employees for the first time since World War II, principally due to lagging sales and dismal future prospects [Ref. 50:p. A10].

Can other sectors of the the French economy absorb employees from the arms industry? Beset with a national unemployment rate of 10.3% in 1988, France might not be in an optimum position [Ref. 51:p. A1]. This concern is evident in recent attempts to reform the national maker of guns and armored vehicles, GIAT. As already noted, initiatives were limited and constrained due to concerns about the overall effect of phasing out jobs. The educational level of the average defense industry worker would probably tend to mitigate the effect of a high national unemployment rate as laid-off workers in defense industries tend to find work more easily due to their high amount of schooling.

Research and development can be pursued by the government for both civil and military purposes, or by the private sector. France commits a relatively low level of gross domestic product (2.15%) toward reseach and development compared to other advanced democratic nations [Ref. 46:p. 303]. The Eureka proposal of April 1985 by President Mitterrand placed France in the forefront of the move toward shared research and development in civilian high technological areas [Ref. 46:p. 289].

A stronger non-military cooperative R&D base would affect the arms industry. For instance, the limited amount of funds for Research and Development is divided between civilian R&D and military R&D, with emphasis on the former. Though it could be argued that finding military uses for civilian technology would be easier than the other way around, the arms industry be hard hit by moves to place even greater emphasis on civilian R&D. The R&D effort by the French government in space technology is an example of an effort with civilian and military applications.

III. THE BRITISH ARMS INDUSTRY

A. OVERVIEW OF THE BRITISH ARMAMENTS INDUSTRY

Like the French, the British attach great importance to a national arms industry. Traditional British expertise in the areas of shipbuilding and aircraft production is well documented, and these strengths were developed with the active support of the British government. However, the central concept of state involvement is not present in the United Kingdom to the same degree as in France.

If one were to summarize the traditional aspects of the British armaments industry, three points of emphasis would stand out. One is the close relationship between the leaders of industry and government, resulting from a common elitist upbringing. Secondly, private firms have played pivotal roles in boosting production in times of crises, filling the gap left by the limited capability of government-run arsenals and shipyards. Finally, no distinct procurement strategy exists that clearly articulates the government's commitment toward the maintenance of a national defense-industrial base.

The class system in Great Britain has limited the size of the talent pool from which most government leaders have come. From this same pool has emerged many of the leaders of British industry. The criteria for membership in such an elite has included family status and common educational background [Ref. 52:p. 8]. Leaders in both government and industry, therefore, have been steeped in the traditions, values, and moral standards of certain sectors of British society.

The crossover from positions of leadership in military service to high-level positions in the arms industry is fairly common and accepted [Ref. 52:p. 22]. Personal contacts made while in the military are magnified in importance in the British system, where a large amount of business is done through whom one knows. The unspoken emphasis on tradition, personal honor, and the gentleman's code is still present today. The addition of military men to the corporate structure of the arms industry results in an increased ability to foresee the changing equipment needs of armed forces, both in Great Britain and the rest of the world.

The backbone of British industry has always been privately owned firms. In the fields of technology where a commercial parallel existed, a private firm could stay in business without government support, and thus be available when needed for defense purposes. The best examples of this are the private shipyards prevalent in the nineteenth and twentieth centuries, firms such as Vickers, Armstrong's, and Scott's.

As long as a commercial market existed and the firm remained innovative, government involvement in order to assure the firm's availability in time of war was not necessary. Given the common convictions regarding the nation held by leaders in industry and government, maximum benefit could be derived from minimal government expenditure.

Government involvement increased in the early twentieth century in order to maintain a capability in weapons technology that exports alone could not sustain. An example is the subsidy to Vickers after World War I by the British Admiralty in order to keep turret production capability intact during the low shipbuilding period [Ref. 52:p. 15]. With the rearmament of the armed forces

starting in 1934 and accelerating through World War II many firms became reliant on government contracts to support the huge expansion brought about by the increase in production.

This was especially true in the aerospace industry. After the war the industry had entrenched itself as a major employer, but had no natural market for its product. Rather than create an innovative marketing strategy and make the necessary adjustments itself, the industry relied on government involvement. As a result, major mergers were forced on the industry in 1960, creating the British Aircraft Corporation and the Hawker Siddely group. In 1978, these two groups were nationalized as the British Aerospace Corporation (after Hawker Siddeley went bankrupt) [Ref. 52:p. 24].

Another symbol of government involvement was the creation of the National Enterprise Board to oversee troubled companies [Ref. 52:p. 27].

Another aspect of the arms industry in Great Britain is the general lack of clear policy guidance regarding the maintenance of a defense-industrial base. The maintenance of national arms industries is a specific aspect of French policy, yet British leaders in the last ten years have been vague concerning the importance of national armaments. Economic considerations led to both the decision to develop the Nimrod early warning aircraft in the 1970's and the subsequent decision in 1986 to scuttle the program, but the desire to maintain an industrial base for security reasons was not a major reason. According to Trevor Taylor and Keith Hayward, the Conservative governments led by Margaret Thatcher have shown more concern about getting better prices for defense equipment than about maintaining and strengthening the national defense-industrial base. The Government has stated a preference for domestic suppliers

in terms of jobs and foreign exchange benefits, but has not indicated a desire to pay a premium for it [Ref. 53:p. 54].

B. BRITISH ARMS AS A POLITICAL TOOL

The British political system is dominated by two major political parties, the Conservative Party and the Labour Party. Under the leadership of Margaret Thatcher the Conservative Party has controlled the national government since 1979. As a result, the Conservative approach has shaped the use of the British arms industry as a political tool over the past ten years. In the elections of 1983 and 1987 defense-related issues played an important role in the Labour defeat, so a look at relevant Labour positions during these elections will show a clear picture of what the electorate rejected. Those with implications for this study are the Trident issue and the unilateralist stance, and the traditional Labour view of state control of major industries.

The most visible difference between Conservative and Labour defense platforms during the last decade has been the role of nuclear forces in the defense of Britain. If elected, the Labour Party promised to abolish Britain's nuclear arsenal, including Trident missiles and their platforms, while making a stronger commitment to conventional capabilities [Ref. 54:p. 5]. Though the issue itself was the cause of many votes cast for the Conservatives, the areas with the greatest swing of support away from Labour were those constituencies with defense factories or installations. Martin Holmes points out that the traditional safe Labour seat of Barrow and Furness was won by the Conservatives, who exploited Labour's commitment to cancel the Trident submarines manufactured in that district [Ref. 54:p. 2]. This tends to support the view that the promise of jobs due to defense programs has some effect on voting preference.

Unilateralism would result in nuclear disarmament and the removal of American nuclear weapons from British soil. Though the Labour Party manifesto of 1987 called for unilateralism, it was proclaimed as a policy "based squarely on membership of NATO." [Ref. 54:p. vii] The long-term consequence of a unilateralist approach for a medium-sized power such as Britain might be neutralism, however. Such a situation would have obvious ramifications for the arms industry.

Traditionally, a basic tenet of Labour philosophy has been the flourishing of many state-controlled firms. In such a way the government could directly influence employment and prices, even at the expense of profit and the free market. In 1979-1986 the Thatcher government sold over a dozen state-owned companies to the private sector, including its 48.43% stake in British Aerospace in 1985 [Ref. 55:p. 35]. Labour indicated that some of the companies would be renationalized if Labour returned to power. Two other defense-related firms this might affect were Rolls Royce and Royal Ordnance [Ref. 56:p. 34].

In addition to stopping the trend of privatization, the Labour Party would not have supported substantive moves toward a free market economy, as the Conservatives have steadily done. In 1985-86, for instance, the British government allowed more than 29 billion dollars in takeovers, over 4 times the typical annual amount during the early 80's [Ref. 57:p. 28]. In the defense industry this policy resulted in the purchase of state-run Royal Ordnance by British Aerospace in 1987 [Ref. 58:p. 27]. The Labour loss could be seen as a mandate to Thatcher to continue her free market approach toward industry.

After the 1987 election Labour amended some of its defense policies, including a move away from unilateralism toward multilateral nuclear

disarmament. Concerning overall defense-industrial policy, Shadow Spokesman for Defense Martin O'Neill charges that Government has failed to take adequate action in anticipation of 1992. He stated in a recent interview, "The government seems to be indifferent to the UK's industrial structure." [Ref. 59:p. 707]

What Labour has described as indifference is actually the evolution of a relatively laissez-faire approach toward industry started by the Thatcher government upon taking power in 1979. In general the Government is reluctant to become involved in directing industrial development, believing exposure to market pressures will result in growth and recovery [Ref. 60:p. 51].

At the same time defense procurement fell under a simple philosophy: better value for the money. The economic implications for defense will be discussed later, but foreign policy issues have been affected as well. Three examples show that the government's relationship with British defense industry has political ramifications: the Westland affair in 1985-86, the Nimrod controversy ending in 1986, and the saga of GEC/Plessey, finally resolved in 1989.

Westland PLC, Great Britain's only helicopter maker, was in need of financial restructuring when in 1985 it was courted by the team of United Technologies of the U.S. and Fiat S.p.A of Italy. The Ministry of Trade and Industry supported this plan, which would have opened the European helicopter market up to the Americans, and felt the result would be a stronger infrastructure for further U.K./U.S. cooperation [Ref. 61:p. 32].

The Ministry of Defense, along with the defense ministries of the other European helicoptor-producing nations, saw many reasons to reject this bailout proposal in favor of one made hastily by a consortium of European defense companies made up of Aerospatiale, Agusta of Italy, Messerschmitt-Boelkow-

Blohm, and British Aerospace and British General Electric Co.. For one thing, it was thought that the United Technologies role would cause Westland design expertise to decay, thus losing a national defense capability. For another, in the words of Sir John Cuckney, Westland's chairman, "There's been a major anti-American motive in all of this to keep United Technologies out of the European market. But it isn't up to our company to do what is best for one industry or another." [Ref. 62:p. 24]

In the end the Thatcher government allowed Westland to choose United Technologies. Trade and Industry Minister Leon Brittan made a statement concluding that "it is for Westland to decide the best route to follow." [Ref. 63:p. 36] However, the controversy was so great that Michael Heseltine, the Minister of Defense, resigned to protest the government having not chosen the European solution. In his view, picking the European consortium would have supported the policy of increased British involvement in European affairs. As Heseltine stated in resigning:

> It was recognized that with a Sikorsky shareholding Westland might tend to become little more than a production facility for Sikorsky and to lose its own helicopter design and development capacity, that a link with European companies would fit better into the developing pattern of European collaboration and that, in many ways, British Aerospace would be the most welcome partner. [Ref. 64:p. 83]

The decision to produce the unproven Nimrod airborne warning aircraft as opposed to Boeing's AWACS was made by the then Labour-led government in 1977. In addition to maintaining and developing national security technology for potential export, the reason most often cited for this decision was the number of British jobs that would be created as a result of this work. "The decision to go for Nimrod here was a decision to maintain jobs and keep strategic industries,"

stated Malcolm Spaven of Sussex University's Armament and Disarmament Information Unit [Ref. 65:p. 36].

British GEC and British Aerospace never succeeded with initial prototypes, and a decision was needed in 1986 whether to continue the program with no assurance of ultimate completion or whether to purchase the NATO-integrated Boeing AWACS. Though pressured by industrialists, union leaders, and the Labour Party, the Thatcher government chose the Boeing AWACS, citing security reasons [Ref. 66:p. 27]. In response to concerns about the loss of jobs and high technology expertise, the United Kingdom entered into an offset agreement with Boeing that called for Boeing to provide work over eight years valued at 130% of the value of the contract, approximately 1.3 billion dollars [Ref. 67:p. 36]. When the first UK AWACS was rolled out in July 1989 the level of contracts won up until that time by UK companies was announced as 624 million dollars [Ref. 68:p. 44].

Thus in the same year as the Westland affair, in which the Thatcher government was endangered by a controversial decision seeming to favor the United States, but in which only political and economic issues were significantly addressed, the decision regarding the fate of Nimrod was made. In contrast to the Westland decision, which was mainly a political one, the longer Nimrod was delayed the longer the United Kingdom had to rely on an ineffective air defense warning system in its portion of European airspace to protect [Ref. 65:p. 36]. In other words, the decision to rely on AWACS instead of Nimrod was heavily influenced by security considerations.

The saga of GEC and Plessey began with GEC's hostile takeover bid in 1986. GEC offered to take over Plessey for 1.77 billion dollars. Plessey, labor unions,

and some members of Parliament claimed a takeover by GEC would create a near-monopoly of the national defense electronics industry, among others. Critics of the GEC takeover bid also pointed out to Plessey stockholders the fact that GEC had failed in its Nimrod venture, while Plessey was a subcontractor for the American makers of AWACS [Ref. 69:p. 18]. This bid was disallowed after the Monopolies and Mergers Commission completed a six-month study in July 1986 [Ref. 70:p. 20].

In November 1988 another takeover offer was announced for Plessey from GEC and Siemens of West Germany, an attempt that was cleared by both the British government and the European Community prior to consummation. Certain safeguards were insisted on by the government in the area of defense, including the requirement that all top executives of Plessey's defense-related businesses be British citizens [Ref. 71:p. A8]. The acceptance of the deal by the Monopoly and Mergers Commission seems to have signaled the start of a trend which may result in more foreign ownership of British firms dealing with defense. Also, though the deal might have been blocked on security grounds alone in times past, the importance of the economic benefits in the civil sector of the pooling of semiconductor and telecommunications interests outweighed security aspects [Ref. 72:p. 1].

During the Thatcher years the arms industry has been used to support foreign policy objectives through the use of arms exports. Often with the Prime Minister personally involved in the promoting of British arms, the export trade has increased steadily through the 1980's, in many cases solidifying traditional relationships with other nations such as Saudi Arabia [Ref. 73:p. 25].

Perhaps the clearest case of the arms industry being used to support foreign policy objectives has been the refusal of the British government to allow arms sales to Iraq and Iran since 1984. Even though a cease fire was agreed to in July 1988, the government apparently will review its policy only when a formal truce is declared. For instance, in July 1989 a committee of the British cabinet blocked a proposed sale of Hawk trainer aircraft by British Aerospace to Iraq, though the potential consequences included losing the sale to Dassault-Breguet of France and Dornier of West Germany. Though both the Ministry of Defense and the Department of Trade and Industry supported British Aerospace's proposal, the Foreign Office was strongly opposed, as it went against British foreign policy [Ref. 74:p. 1].

C. BRITISH ARMS AS A SECURITY TOOL

Unlike France, whose independent arms industry has supported an independent defense policy, Britain's defense-industrial complex was never designed to fulfill all its defense needs [Ref. 60:p. 52]. This contrast is best highlighted by the different approach taken by Britain in the development of an independent national nuclear deterrent. Whereas France invested significant national assets toward this goal, the British have since 1962 relied almost completely on the United States for the necessary technology. The intent to build a nuclear arsenal indicates that Great Britain, like France, desires major power status; the method of reliance on foreign sources indicated Britain's willingness, unlike France, to place nuclear security interests in the hands of allies.

Security to Great Britain has always included a strong navy and the right mix of continental allies. The capability to build ships has been a British tradition and continues to this day. The market for large warships is confined to domestic

buyers, i.e., the government, with a potential export market limited to less sophisticated vessels [Ref. 75:p. 454].

An interesting situation exists: whereas the arms export aspect of most defense industries allows for the maintenance of a national industrial base, in the area of shipbuilding the makers of exportable craft are different from the makers of domestically-needed warships. A thriving export business, in other words, does not guarantee a continued ability to build large ships for the British navy. The main reason behind the capability to build big ships is to support national security goals.

This has resulted in less competitive criteria applied in the warship construction business by the government than in other defense manufacturing industries [Ref. 60:p. 53]. For example, Vickers Shipbuilding and Engineering, especially since acquiring the Cammell Laird shipbuilding firm, plays the dominant role in submarine construction. The firm of Swan Hunter dominates on large ships, and the firm of Yarrow for frigates. This is in contrast to the rest of the military shipbuilding business, where approximately nineteen shipbuilding concerns compete for domestic and foreign contracts for ships such as patrol craft and minesweepers [Ref. 75:p. 462].

The traditional importance of the right mix of continental allies for security policy has in the post-World War II environment been embodied by NATO. In fact, unlike the French, who call their own nuclear deterrence capability the cornerstone of their security policy, the British openly acknowledge NATO as the keystone of their defense [Ref. 76:p. 3]. In the alliance the United Kingdom has a role in the mobilization of defense forces, but not the all-encompassing one it would have without an alliance network.

British out-of-area commitments include garrisons in the Falklands, Hong Kong, Belize, Brunei, and Cyprus. Other commitments are met with the fleet in overseas locations such as the Indian Ocean. However, two justifications for this committment point to the overall precedence of NATO: low relative cost and the ability to return to the NATO area on short notice [Ref. 76:p. 3].

D. BRITISH ARMS AS AN ECONOMIC TOOL

The exporting of arms is often a way for a nation to afford a broad defense-industrial base. In France this has been so, but in Britain it is somewhat less important. The main impetus for the importance placed on arms exports in Britain seems to be the desire for a positive trade balance, and arms represent one of the more effective ways to accomplish it. Between 1984 and 1988 the United Kingdom exported 8.8 billion dollars worth of major weapons, 58 percent of them to five nations of traditional British involvement: India, Indonesia, Nigeria, Oman, and Saudi Arabia [Ref. 47:p. 196]. The overwhelming majority of British arms exports in the latter years of the 1980's went to the Third World, being passed up in exports to the industrial world in 1988 by nations such as Czechoslovakia, Sweden, and the Netherlands [Ref. 47:p. 198].

With such an emphasis on Third World arms sales the British could have trouble maintaining export levels as these nations become constrained economically in purchasing major weapons. In addition, weapons such as the Tornado tactical aircraft and the Challenger tank have limitations as potential exports, the Tornado from premature aging and the Challenger from inappropriate design [Ref. 77:p. 186]. Thus, due to the likely prospect of decreasing arms sales in their traditional market, Britain will need to shift its

focus toward its European and American allies in order to maintain a positive arms trade flow. Rather than outright sales of weapons as with Third World clients, this will mean an increase in cooperative projects.

The major governmental support organization for the arms export industry is the Defence Export Services Organization. Its role is to coordinate government support for major sales, to provide market surveys, to analyse the potential market for new products, and to ensure that specifications for new equipment take into account export potential [Ref. 76:p. 33]. The nature of the organization, possibly due to the overall government policy of free market emphasis, does not seem to hinder any movement toward cooperation with other governments, as the societies in France seem to do.

An aspect of the use of the arms industry as an economic tool that is very much a trait of the Thatcher government is the announced procurement policy of "value for money". In the words of the Defense Ministry:

> Our procurement policies aim to obtain for the armed forces the equipment they need, when they need it and with the best value for our money. Competition is at the heart of our strategy and it can only succeed if as many companies as possible know about, and compete for, our business...By adopting a commercial approach to procurement and exposing the defence industry to market forces, we have encouraged an enterprising industrial base that actively seeks new ideas and efficiency in the use of resources. [Ref. 76:p. 29]

The reforms which brought about this policy were known as the Levene reforms, named after Sir Peter Levene, appointed Chief of Defence Procurement in the Ministry of Defence in 1985.

Though designed to increase the efficiency of the British arms industry, certain implications of this policy are not fully supported in Britain. These deal with potential foreign influence. For one thing, the issue is often seen as whether

to buy British, irrespective of cost, or to purchase more economical equipment from abroad. In a recent poll of a random sample of 100 Members of Parliament, 57% of the Conservatives polled were in favor of preferential treatment for British companies on procurement issues, while 97% of Labour MPs supported the idea of preferential treatment. The two major reasons given were domestic employment and national pride [Ref. 78:p. 35].

Potential foreign influence could also come in a more indirect way than through equipment procurement. In 1983 the Adam Smith Institute published a report on defense policy called the Omega Report on Defense Policy, in which four principles of defense programming were presented. They were the principles of efficiency, competition, choice and substitution. Since 1983 the first two principles have been undertaken: the principle of efficiency manifested by the procurement policy geared to more value for the money; the principle of competition manifested by the privatization of state-owned enterprises [Ref. 54:p. 38].

The principle of choice would call for Britain to reassess its roles as a maritime power with force-in-being commitments in the Federal Republic of Germany, and as a nuclear power with a need for substantial conventional forces. And finally, the principle of substitution would call for the civilianization of certain military functions by the substitution of non-military items and services for military ones. Use of the civilian sector, for example, in areas of troop transportation, food preparation, and medical services are examples of the principle of substitution.

Taken to the extreme, the policy being pursued by the Thatcher government could incorporate all these principles and open the door to foreign intervention.

As described by Christopher Coker, the *Daily Telegraph* imagined a potential Thatcherite military policy: It reported the government was considering de-nationalizing the army and selling off parts of it. "Strict flotation terms," the paper wrote, "would prevent hostile foreign interests gaining majority control..." [Ref. 79:p. 17].

IV. THE WEST GERMAN ARMS INDUSTRY

A. OVERVIEW OF THE WEST GERMAN ARMAMENTS INDUSTRY

Two overwhelming facts have distinguished the German armaments industry from its French and British counterparts. First, the German state was defeated in two major wars this century, the second of which resulted in the division of Germany into two separate political entities. In both wars Germany was the aggressor nation. Second, unlike France and Britain, the Federal Republic of Germany had no track record from these wars as a reliable ally to the other powers that made up post-World War II Europe. An overview of the Federal Republic's armaments industry must center on these two points.

Whereas the underlying justification for both France and Britain to actively support an ambitious armaments program is their position as sovereign and accepted world players, the justification for a national arms industry in the Federal Republic of Germany is much less clear. Nowhere as in the area of security has West Germany had to tread more carefully due to Germany's history as a belligerent, expansionist nation. The development of a complete and independent defense-industrial base in West Germany after World War II was unthinkable, though much of European post-war politics was centered around the question of rearming West Germany using the weapons base of the occupying powers, specifically the United States.

When the Bundeswehr was established in 1955, it was armed using mostly American weapons, not those of German origin. In fact, under the terms of the Western European Union the Federal Republic was prohibited from the

manufacture of any weapons judged to have an offensive character [Ref. 80:p. 290]. As the Federal Republic proved its reliability as an ally in the ensuing years these restrictions gradually were taken away, with the exception of a ban on producing chemical, biological, and nuclear weapons [Ref. 80:p. 290]. Establishing itself as a reliable ally has been a two step effort by West Germany. First, almost all national security policy issues have been approached from an alliance perspective. This is in direct contrast to France, whose desire for autonomous powers was a reason for that nation leaving the integrated military structure of NATO in 1966. In describing the mission of the Bundeswehr the 1985 White Paper on defense stated

> The Bundeswehr has been conceived as an army in the Alliance and not as an instrument for independent military power projection on the part of the Federal Republic of Germany. It can accomplish its mission only within the framework of the Alliance. [Ref. 81:p. 72]

The West German government is prone to have this perspective when it comes to procurement issues as well.

With the fear of German revanchism in the subconscious of her allies, the Federal Republic has taken a second step toward allaying those fears in her attempt to establish herself as a reliable ally. In two areas prominent since World War II as manifestations of military power, nuclear weapons and large armaments capability, West German policy is geared toward seeking no nuclear weapons on the one hand and toward cooperative weapons projects one the other.

The result of the imposed restriction on manufacturing arms by the Western European Union treaty in 1954 and of the self-imposed restriction on developing an independent defense-industrial base has been an increased desire to purchase directly from others or collaborate in projects with other weapons producers.

Initially the weapons manufacturers to gain the most from this concept were the Americans, usually through the direct purchase of weapons.

Through the years, however, the Federal Republic has frequently turned to its West European neighbors for co-development of different systems, not just to produce weapons systems but to erase its "pariah" image while re-establishing defense-industrial independence [Ref. 40:p. 11]. In addition, West Germany has used cooperative ventures to develop closer ties to France, even at the expense of military efficiency and capability [Ref. 40:p. 11].

West Germany's effort to establish itself as a reliable ally has been successful. With the lessening of pressure brought about by this concern, West German defense policy has had to reflect a wider range of national interests. Josef Joffe cites three factors that have conditioned these wider interests. First, the Germans have realized that the United States is limited in its ability to provide more than the mainstays of European security, such as monetary stability, secure oil supplies, and political order in troubled areas. Second, as the Federal Republic improved relations with its East European neighbors under the policy of Ostpolitik, its dependence on the West for foreign policy guidance decreased. And finally, these improved relations have resulted in a whole new set of interests, above and beyond those of the Alliance [Ref. 82:p. 90].

As interests have expanded beyond those of the Alliance, new reasons for establishing an armaments base in the Federal Republic of Germany have developed, somewhat more along the traditional lines of France and the United Kingdom. However, the foundation behind the development of the West German arms industry will always differ fundamentally from that of its allies.

B. WEST GERMAN ARMS AS A POLITICAL TOOL

Like any other aspect of German society that has militaristic undertones, the West German arms industry is not utilized in political circles as a rallying point of national pride. This is true in both domestic and foreign policy issues. Domestically, the people of Germany have typically become involved in defense issues only as it related to a heightened public awareness of environmental issues starting in the mid-1970's. National foreign policy has been consistently non-belligerent, and West German governments have, in the words of Catherine McArdle Kelleher, taken great pains to "avoid unnecessary symbols of national independence." [Ref. 80:p. 290]

The debate on security issues had been limited to a small circle of experts and interested parties until the growing concern about nuclear weapons became a political issue in the late 1970's. The neutron weapon controversy in 1977, the NATO dual-track decision in 1979 which resulted in the planned stationing of 108 Pershing II and 96 ground launched cruise missiles on German soil, and the American decision to pursue the Strategic Defense Initiative in 1983 all resulted in an increase in public awareness and concern [Ref. 83:pp. 43-51]. Desire for continued peace and environmental concerns were the dominant attitudes, so there was little political impetus for making an issue out of the role of the arms industry.

The involvement in the German arms industry of two strong groups make it all the more likely that the industry will not become the center of a political issue. These are the labor unions and the German banks. For one thing, labor unions are strong, organized, and resistant to long-term reform if short-term effects are lower employment and employee relocation. Potentially controversial

decisions involving change in the industry are watered down in the corporate boardroom, where labor unions are represented [Ref. 84:p. 20]. The net result is a limit on government's ability to shape the future appearance of the arms industry.

Other players in German industry with major influence are the German banks, which are not only involved in the financing but in the running of companies as well. As an example, the Deutsche Bank has officers or directors on 59 of the top 100 German firms; other banks have similar attributes [Ref. 85:p. 32]. The result, of course, is significant influence by the nation's financial institutions in the determination of the strategies of arms makers, often superceding the role of the government. Many credit the power of the German banks as the main reason for the stability and growth of the West German economy, so the presence of such institutions makes it less likely the government would get heavily involved in the industry, making a political issue out of arms production.

The export of arms is very restricted in West Germany.* In fact, prior to 1982 an export ban was imposed on all nations considered to be in conflict with another country [Ref. 86:p. 147]. This resulted in a relatively small amount of annual arms exports, so that prior to 1982 arms exports accounted for about 0.5% of overall German exports. The Schmidt government eased off somewhat

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* For different views of the West German arms export policy, see Pearson, F. S., "Necessary Evil: Perspective of West German Arms Transfer Policy," *Armed Forces and Society*, Summer 1986, pp. 525-552, and Brzoska, M., "The Erosion of Restraint in West German Arms Transfer Policy," *Journal of Peace Research*, May 1989, pp. 165-78.

from this policy in 1982, allowing sales to belligerents if such sales were deemed to be "in the vital interests of the Federal Republic of Germany." [Ref. 87:p. 27]

Arms exports, however, are still reviewed by the executive branch on a case-by-case basis. Maintaining such control but with more flexibility has resulted in an increased use of the arms export industry as a tool to support West Germany's strategic interests. The use of arms exports in this way by the Kohl government has resulted in much criticism from the principal opposition party, the Social Democrats, who have called for the restriction of arms exports to only the 24 democracies who make up the Organization for Economic Cooperation and Development [Ref. 88:p. 17]. Nations buying arms from the Federal Republic must take into consideration the fact that follow-on sales and upgrades are not automatic.

Another effect of this policy has been on joint ventures with France and Britain. As stated before, the government has used cooperative arms production in support of a policy aimed at establishing the Republic as a faithful ally while allaying fears of revanchism. In addition, German involvement in these projects has increased the nation's production capability and broadened its technological base. However, as the exporting of arms became more important to France and Britain the restrictive attitude of West Germany threatened to hamper future collaborative efforts.

As an example, in 1982 the Schmidt government rejected a request to export the Tornado aircraft to Saudi Arabia. The memorandum of understanding creating the Panavia consortium which built the Tornado included veto power by each of the member countries of Italy, Great Britain, and West Germany on the matter of exports. In 1968, when the formation of Panavia was agreed to by the

participants, the prospects of exporting the Tornado were not considered a vital aspect of the program [Ref. 2:pp. 46-50]. However, in the 1980's exports were vital to the success of large weapons programs, and after taking office Chancellor Kohl allowed an amendment proposed by the British to eliminate the veto power for Tornado export to become policy [Ref. 87:p. 28]. Soon thereafter the British concluded a deal with Saudi Arabia and Oman for Tornado export. This indicates the willingness of the Federal Republic to modify its stance on export restrictions in cases where collaborative projects are involved.

The resolutions adopted by the Party Conference of the Social Democratic Party of Germany in August 1986 include a de-emphasis on the armaments industry. As part of the steps necessary for the further development of the Bundeswehr,

> The SPD calls upon firms in the armaments industry to reduce their dependence on weapons contracts. In particularly difficult cases they can be granted assistance in switching over to the manufacture of civilian products in order to safeguard jobs. An SPD-led government will establish a foundation for the conversion of the armaments industry and introduce a public investment programme to encourage the production of civilian goods by companies currently manufacturing weapons [Ref. 88:p. 18].

The potential implications for further cooperative involvement seem clearly negative under the prospects of a SPD-led government, though enactment of these aspects of the SPD platform is by no means assured.

C. WEST GERMAN ARMS AS A SECURITY TOOL

From the beginnings of the Bundeswehr in 1955 a need for some arms was present in the Federal Republic of Germany. The rapid rearmament of the armed forces using mostly American weapons not only created a habit of buying

U.S. weapons systems, it took away a basic reason for developing a national armaments industry: to outfit that nation's armed forces.

The role of allies (especially the United States) in the West German defense strategy is vitally important. Through the outstretching of the nuclear umbrella and the presence of 300,000 of its troops the United States has committed its power to defend the Federal Republic. As long as that power is committed, the Federal Republic of Germany is defended as well as its strategy could have hoped. Only when a constraint or policy shift emerges in the U.S. that might affect American support and commitment would West German security potentially suffer. Thus, West German effort should go toward ensuring that no such policy shift occurs.

The West German procurement process could support these alliance-maintenance efforts in two ways. First, by buying American weapons West Germany could help offset the U.S. cost of maintaining troops in the Federal Republic, thus removing a potential economic constraint. Second, buying weapons from the United States would ensure that an independent arms capability does not develop, a capability that would risk a shift in U.S. policy toward a European defense framework with less U.S. ties, as American perceptions of West Germany being able to defend itself increased [Ref. 89].

The point of this reasoning is not that a national armaments capability has no place in West Germany, but that its role is not as vital to its national security goals as the armaments industry is to either Britain or France. As Andrew Moravcsik has pointed out, domestic sources made up 80% and 75% of French and British procurement, respectively, between 1985-1989, whereas purely domestic sources only made up 45% of West German procurement during that

same time period [Ref. 5:p. 66]. It is the maintenance of the alliance that has been vital to West German security, and the role of the arms industry has been as a supporter of the Alliance, not as an independent national source of weapons.

D. WEST GERMAN ARMS AS AN ECONOMIC TOOL

The need to afford a broad defense-industrial base is not a by-product of the national strategy of the Federal Republic of Germany, as it is in the case of France. The use of the armament industry to provide for a positive trade balance is minimal, much less so than in the United Kingdom. Military research and development represents a small portion of the total amount of R&D done in the country, much less than in France and Britain but not as small as in Japan [Ref. 46:p. 303]. The absolute values of West German arms exports, however, have grown significantly in the past decade, and recent trends in industrial takeovers have provided West Germany with some defense firms as big as any in Europe [Ref. 90:p. 1]. These two aspects make the arms industry an economic tool of large potential.

Arms exports prior to the 1980's mostly concentrated on sales to NATO allies, reflecting the government's policy of refusing to authorize sales to nations in armed conflict (the nations most likely to want to purchase arms). Meanwhile, cooperative ventures took place with NATO allies, both co-development projects and co-production projects. Through both the Federal Republic gained the technology and know-how to independently develop weapons systems.

The ability to make weapons suitable for export was developed before any easing of export restrictions, so when the easing came in 1982, the capability was already there. The net result was an increase in exports, most dramatically to the Third World. In the years 1976-1980 the Federal Republic exported $1.07

billion worth of arms to the Third World (constant 1985 prices), much less than the $4.66 billion during 1981-1985 [Ref. 47:p. 228]. Combined with a still-strong market in the industrialized world, West German arms exports represent between 3 and 4 percent of total world sales, comparable to Britain but less than France.

The shape of the arms industry has changed as a result of the increase in importance of different economic factors, not hindered by any pronounced need to maintain the status quo. The clearest example is that of the restructuring of the defense industry caused by the Daimler-Benz takeover of Messerschmidt-Boelkow-Blohm (MBB) in 1989. MBB is a major defense contractor involved in such multi-national projects as Tornado and EFA (multi-role combat aircraft), Trigat (third generation anti-tank missile), and the PAH/HAC (anti-tank helicopter), as well as national endeavors such as the main battle tank Leopard II (through its interest in Krauss-Maffei). Daimler-Benz is a corporate giant which generated over $37 billion in sales in 1988, though less than 10 percent due to arms sales [Ref. 91:p. 29]. The combination of governmental support, a clear corporate strategy by Daimler-Benz, and common sense make this deal a potential model for the future.

The government desired this deal for several reasons, even though such a corporate joining would create a virtual monopoly on domestic defense equipment for Daimler. For one thing, the government felt it necessary to discontinue its policy of subsidizing the European Airbus project, not only for budget considerations but also to send a signal to the United States, which has complained heavily about subsidies for the civilian airline program [Ref. 92:p. 319]. Secondly, the consolidation of MBB and Dornier (part of the Daimler

empire) is considered an important step in the government's desire to concentrate major firms in the West German air and space sector into an efficient national industry [Ref. 91:p. 29]. Finally, the financial strength and overall size of Daimler-Benz ensures German participation in international defense projects will be given equal status with any potential group of partners, including those of the United States.

Certain concessions were demanded of, and agreed to by, Daimler Benz before the takeover was allowed. Partly to appease the concerns of the Federal Cartel Office, which objected to the takeover on the grounds that it would create a monopoly in the defense sector [Ref. 93:p. A10]. West German Economics Minister Helmut Haussmann attached the following conditions to the sale:

- Daimler must sell MBB's share of Krauss-Maffei AG, maker of Leopard tanks.
- Daimler must sell the naval warfare, torpedo, and drone technology divisions of AEG and MBB.
- Daimler and MBB must divest themselves of several firms that advise the government on military procurement.
- Daimler and MBB executives must resign from the supervisory boards of companies that are important military suppliers.
- Daimler must take over all of Deutsche Airbus GmbH by the end of 1996, including the share held by the government. [Ref. 94:p. 32]

The government's willingness to accept a situation where a privately-held company would hold virtually total control over the domestic arms industry, even with these conditions, is in direct contrast with France and even more free-market-oriented than the privatization efforts of the Thatcher government.

The acquisition of MBB follows a pattern of takeovers by Daimler-Benz started in 1985 with the absorption of all of the diesel and jet engine maker Motoren-und-Turbinen-Union, 56% of AEG (electronics), and 65.5% of

Dornier (aerospace) [Ref. 95:p. 1205]. The components of this strategy come in three parts. First, with the development of an internal European market in 1992 Daimler recognized the importance of having a broad-based corporation if multi-national project leadership was desired [Ref. 96:p. 367]. Second, by its recent acquisitions Daimler has positioned itself to take advantage of the trend in both defense and civilian markets toward increased emphasis on electronics and high technology areas. Finally, the takeover of MBB has gotten Daimler involved in the major European joint projects at the contractor level, a better position to wield influence and take advantage of its economic strength.

Common sense has also been allowed to play a role in the Daimler/MBB deal. In the future of major weapons development, only large firms will be able to compete in the world market, so the forming of a huge conglomerate made up of national firms is the next logical step in ensuring survival in the arms industry. The Dornier/MBB combination is also natural, as Dornier in particular was too small to compete effectively in the changing world market* . The use of a common structure that combined operations allows for will increase efficiency of development and production.

The civilianization that a firm like Daimler-Benz brings to the world of arms production is also essential to the future survival of weapons making capability. The heavy involvement in non-military business ensures Daimler-Benz's lack of dependence on a strong defense market, thus the ability to endure a soft market without government support. This in turn allows a national government to

* Capital for Dornier is on the order of 100 million DM, approximately 1/6 that of MBB. (source: *Interavia*, April 1988).

restrict its involvement in the arms trade, opening the door for further international integration.

V. CONCLUSIONS

A. FRANCE

The French armaments industry is used extensively for political, security, and economic purposes. The dominant factors are the national desire for strategic independence and the role of the State in ensuring that the shape of the arms industry supports that desire. As a political tool the arms industry affects domestic policy as a source of employment and export earnings for French citizens and foreign policy as a potential substitute for former methods of influence such as troop presence and colonial rule.

The predominant feature of post-World War II French security policy has been nuclear deterrence. A trend toward reduced reliance on nuclear deterrence has been evident in the Western Alliance over the last several years, allowing France the opportunity to reassess the role of conventional armaments in her security strategy. Because of this, an interesting possibility emerges involving the French use of the arms industry as a security tool. If the dominance of nuclear deterrence in French strategy were to erode, there might be more of a need for a strong conventional defense-industrial base with less of a demand for strategic independence. To strengthen that base most quickly, a strategy of collaborative effort with other nations in Europe might be most effective.

To the French, arms exports represent a vital aspect of the industry. A decrease in exports would affect France more than either Britain or West Germany, not only because of the greater volume of export trade by France, but also because of the greater number of workers supported by these exports.

France has been reluctant to reform the infrastructures developed to support a strong export market such as the sales societies and the DGA. The character of these institutions may need to be modified for successful integration.

A summary of these conclusions and their applicability in the overall theory is represented in Figure 5.

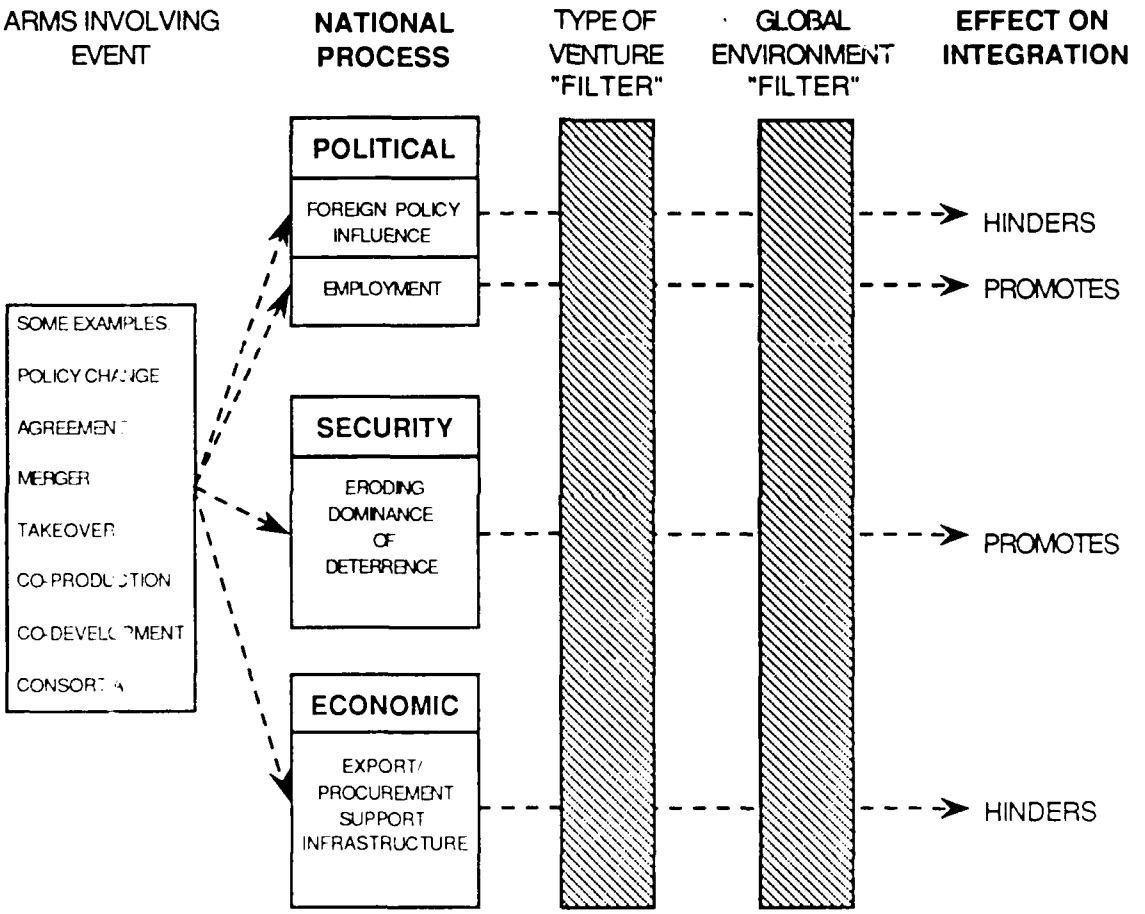

Figure 5. Integration Model as Applied to France

B. THE UNITED KINGDOM

A summary of conclusions involving Great Britain as they apply to the overall theory is represented in Figure 6.

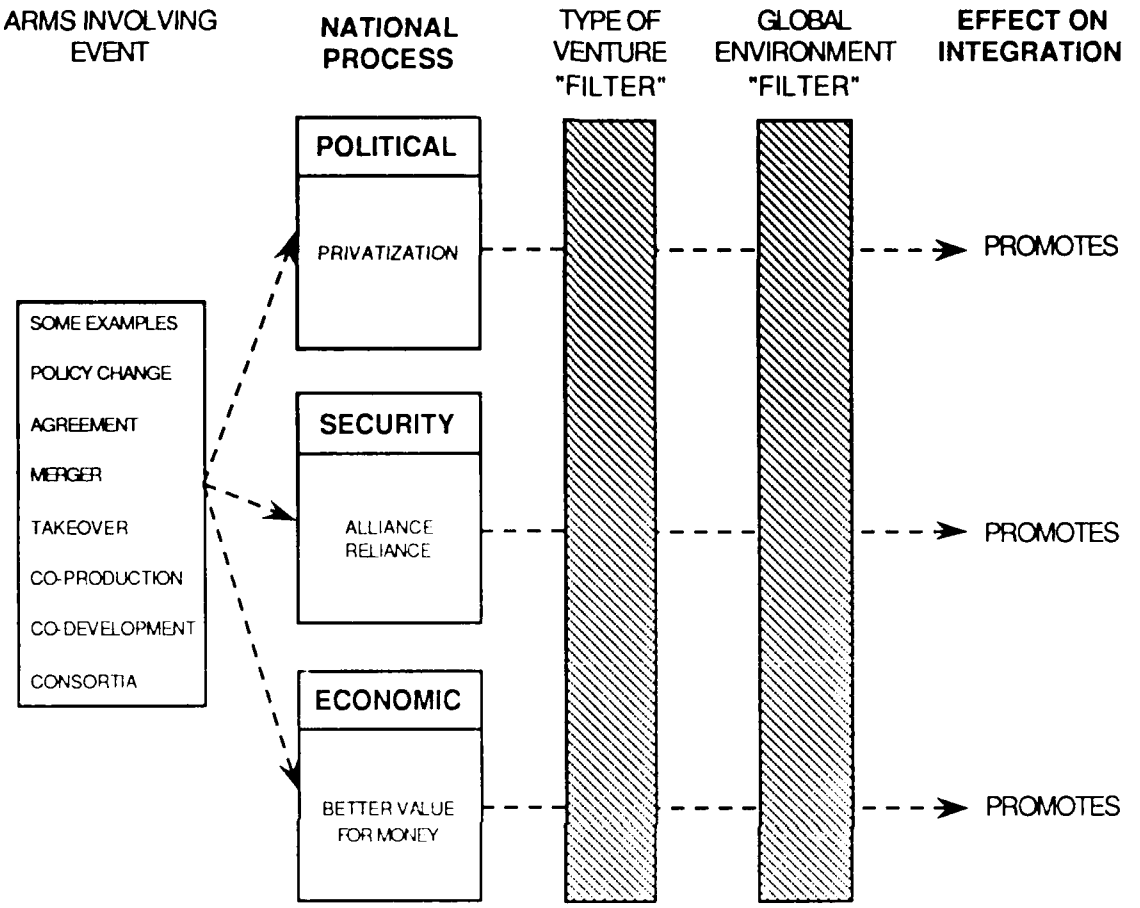

Figure 6. Integration Model as Applied to Great Britain

In the past ten years Britain under Thatcher has followed a policy in which market forces have been allowed to influence the shape of heretofore protected industries. Slowly but steadily this has been evident in the arms industry. Following a procurement policy of better value for the money, the British government has not hindered the involvement of foreign firms in the making of British weapons, including both European and American companies. As a result, most arms decisions with a political undertone in Britain would probably be conducive to ultimate integration.

In issues of British security policy the importance of the proper allies stands out as the most dominant. Arms projects of a cooperative nature tend to strengthen alliance relationships, so would tend to facilitate European arms integration if the partners were European. When the partner is American (as in the Westland case), European integration may suffer.

Economically privatization efforts also support arms integration. As weapons get more expensive to produce and the export market continues to shrink, Britain becomes an attractive partner to other arms producers. In contrast with French government involvement and German export restrictions, the British efforts toward creating a free market in arms production appear highly favorable for increased European integration.

C. WEST GERMANY

A summary of conclusions involving West Germany as they apply to the overall theory is represented in Figure 6.

Two aspects of the analysis of West German national processes stand out as especially significant with respect to European arms integration: Bonn's need politically and militarily to establish its reliability as an ally; and the presence of a prototypical "mega-firm" that seems to represent the wave of the industrial future, Daimler-Benz. Both these facets of the industry represent a willingness to integrate and even suggest a strategy for ultimate integration.

The success of West German security policy is based upon a strong Atlantic Alliance not only due to the added defense capability it provides, but also because of the opportunity it affords to prove the Federal Republic's reliability as an ally. Arms exports, as another example, have always been restricted in order not to promote images of German "merchants of death." Though restrictions have been

eased over the last decade, in a smaller market some types of German salesmanship efforts might seem too aggressive to European neighbors, so an increased emphasis on national arms sales may be seen as not supporting the overall security objective. On the other hand, multilateral European arms ventures could overcome these perceptual difficulties and promote greater integration in European arms industries.

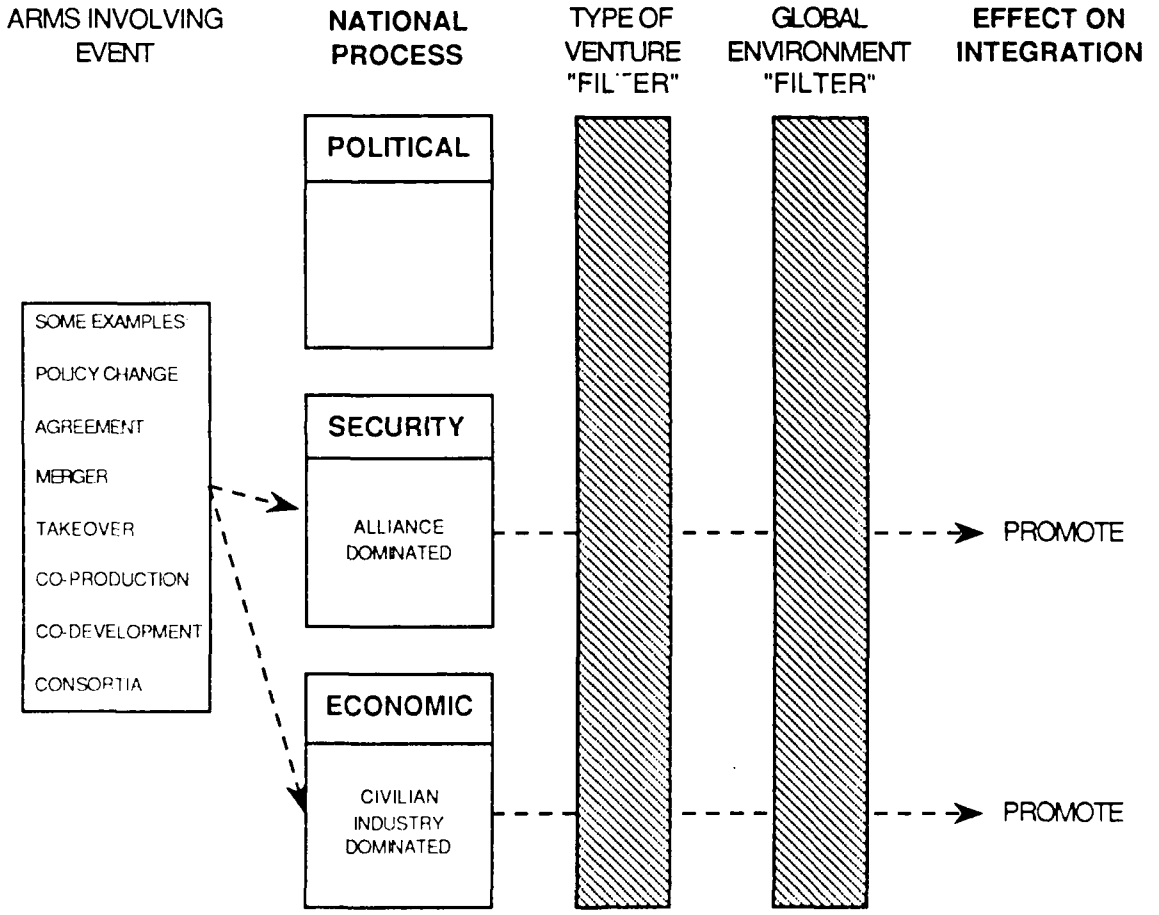

Figure 7. Integration Model as Applied to West Germany

Even before Daimler-Benz became part of the arms industry in the 1980s the German companies involved in the production of weaponry seemed to have relied less on defense trade for profits than either British or French firms. With

the entrance of Daimler-Benz into the arms business it becomes clear that exports are not necessary to sustain the West German arms industry, but that the presence of a civilian giant does strengthen the industry's potential to cross national lines more effectively as 1992 approaches. Infrastructures developed in the civilian arena could be used to consolidate an integrated European arms market.

D. SUGGESTIONS FOR FURTHER RESEARCH

Suggested further steps utilizing the fruits of this research take two particular forms. First, now that a theory has been presented, tracking arms events and using them in this integration model will develop the database necessary to gauge the level of integration. Second, the non-process factors, assumed to be constant in this study, can be further refined with in-depth study. In addition, events occur that call for not just refinement, but a basic change.

Though the results of this model are impressionistic, a development of a database of arms events among France, Britain and West Germany can give a quantitative feel for the extent and rate of integration to the analyst. Policies and strategies can then be developed taking into account this information. As a result, the integration of the European arms industry and its potential effects will be anticipated.

Further refinement of non-process factors is necessary for a more valid model, certainly if a quantitative analysis is desired. What also must be considered are recent changes in the world scene that may functionally affect the global environment. Potentially the most important changes affecting the European arms industry and resulting United States policy involve Eastern Europe.

The events in Eastern Europe in late 1989 were unexpected and their long-term implications are far from clear. The overall effect on the European arms industry may be far-reaching and may not be apparent in the near future, but a general approach to research can be suggested in order to provide a framework for analysis.

An analysis of the capabilities of the major Eastern European arms producers, specifically Czechoslovakia, might show that arms cooperation, notwithstanding the potentially significant political hurdles, could provide a basis for a relatively equitable industrial relationship with western firms as well as a source of hard currency for the newly-formed regimes. What level of cooperation can be expected? How might the effective break-up of the Warsaw Pact affect the prospects for European arms integration, considering both the potential diminish presence of an enemy (the Warsaw Pact) and the disappearance of the major ally (the prospective withdrawal of part of the U.S. presence in Europe)?

For Americans, the major questions surrounding the events of the past several months obviously concern prospects for strengthened international security and strategic stability in Europe. It should be asked, however, whether these events may make the prospect of an integrated European arms industry less strategically significant to U.S. interests, though still important as an economic challenge. The reverse may be the case: in a period of unpredictable and potentially risky change, the United States needs to be able to rely on strong and cohesive partners in Western Europe.

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